

## **ALCIAN BLUE-P.A.S. KIT**

### SDS\_v4

The kit contains:

Alcian Blue solution pH 2.5 (SDS\_v6)

Sodium tetraborate, solution (SDS\_v7)

BioSchiff reagent (SDS\_v6)

HCL reagent, P.A.S. (SDS\_v4)

Hematoxylin ML (SDS\_v9)

Periodic acid, 0.8% solution (SDS\_v4)

Sodium metabisulphite, solution (SDS\_v4)

| <b>Version</b> | <b>Description / reason of change</b>                        | <b>Date</b> |
|----------------|--|-------------|
| 4.             | Change of storage temperature for BioSchiff reagent (SDS_v6) | 31.03.2026. |

|               |                                    |                      |             |
|---------------|------------------------------------|----------------------|-------------|
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| Product code: | AB10-OT-X**                        | Date of compilation: | 21 Dec 2022 |
|               |                                    | Version:             | 6           |

| <b>SECTION 1: Identification of the substance/mixture and of the company/undertaking</b> |  |
|--|--|
| 1.1.   | Product identifier   |
|  | Trading name: ALCIAN BLUE SOLUTION pH 2.5  |
|  | Chemical name: -   |
|  | Catalogue number: AB2-OT-X**   |
| 1.2.   | Relevant identified uses of the substance or mixture and uses advised against  |
|  | Uses: For staining acid mucopolysaccharides of intestinal goblet cells.  |
|  | Uses advised against: Only the identified uses are advised.  |
|  | Reason why uses advised against: The product is intended for use only as an <i>in vitro</i> diagnostic medical device, registered at the Agency for Medicinal Products and Medical Devices and there is no reason to use it for other purposes |
| 1.3.   | Details of the supplier of the safety data sheet   |
|  | Supplier: BioGnost Ltd.  |
|  | Address: Medjugorska 59, Zagreb  |
|  | Telephone number: +385 1 2409997   |
|  | Fax no.: +385 1 2404039  |
|  | e-mail of competent person: <a href="mailto:msds@biognost.hr">msds@biognost.hr</a>   |
|  | National contact: -  |
| 1.4.   | Emergency telephone number   |
|  | National Protection and Rescue Directorate: 112  |
|  | Medical information: +385 1 2348 342   |
|  | Other information: -   |

| <b>SECTION 2. Hazards identification</b>                           |  |
|--|--|
| 2.1.   | Classification of the substance or mixture                     |
| 2.1.1.   | Classification according to Regulation (EC) No 1272/2008 (CLP) |
|  | Hazard class and category code: Hazard statements*:            |
|  | Not identified as hazardous substance. -                       |
| 2.1.2.   | Additional information   |
|  | -  |
| *For full text of Hazard- and EU Hazard-statements: see Section 16 |  |
| 2.2.   | Label elements   |
|  | Product identification: ALCIAN BLUE SOLUTION pH 2.5            |
|  | Identification number: -                                       |
|  | Authorization no.: -   |
|  | Hazard pictograms: -   |

|               |                                    |                      |             |            |
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|                           |   |
|---------------------------|---|
| Signal word:              | - |
| Hazard statements:        | - |
| Precautionary statements: | - |
| Further information:      | - |

|   |               |
|---|---------------|
| 2.3.  | Other hazards |
| <b>Endocrine Disrupting Properties:</b><br>No known endocrine disrupting properties   |               |
| <b>Results of PBT and vPvB assessment:</b> According to the results of its assessment, this substance is not a PBT or a vPvB. |               |

|  |
|--|
| <b>SECTION 3. Composition/information on ingredients</b> |
|--|

| CAS/<br>EC/<br>Index no.               | REACH<br>Registration No | Weight % content<br>(or range) | Identification name | Classification according to<br>Regulation (EC) No 1272/2008<br>(CLP) |
|--|--------------------------|--------------------------------|---------------------|--|
| 64-19-7/<br>200-580-7/<br>607-002-00-6 | -                        | ≤ 3%                           | Acetic acid, 99.5%  | Flam. Liq. 3; H226<br>Skin Corr. 1 A; H314                           |

|                                      |
|--------------------------------------|
| <b>SECTION 4. First aid measures</b> |
|--------------------------------------|

|      |  |
|------|--|
| 4.1. | Description of first aid measures  |
|      | General notes: -   |
|      | Following inhalation: No information available                             |
|      | Following skin contact: No information available                           |
|      | Following eye contact: No information available                            |
|      | Following ingestion: No information available                              |
|      | Self-protection of the first aider: Treat symptomatically.                 |
| 4.2. | Most important symptoms and effects, both acute and delayed                |
|      | Following inhalation: No information available                             |
|      | Following skin contact: No information available                           |
|      | Following eye contact: No information available                            |
|      | Following ingestion: No information available                              |
| 4.3. | Indication of any immediate medical attention and special treatment needed |
|      | -  |

|  |
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| <b>SECTION 5 Firefighting measures</b> |
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|      |                     |
|------|---------------------|
| 5.1. | Extinguishing media |
|------|---------------------|

|               |                                    |                      |             |
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|------|---|---|
|      | Suitable extinguishing media:   | Small fire - water spray, dry powder, CO <sub>2</sub><br>Large fire - water spray or alcohol-resistant foam |
|      | Unsuitable extinguishing media:   | water jet   |
| 5.2. | Special hazards arising from the substance or mixture   |   |
|      | Hazardous combustion products:  | No information available  |
| 5.3. | Advice for firefighters   |   |
|      | Use a self-contained open-circuit compressed air breathing apparatus and fireproof clothing.<br>Cool closed containers exposed to fire with water spray or vapor. |   |
| 5.4. | Additional information  |   |
|      | Remove sources of heat and ignition.<br>Do not contaminate the environment with extinguishing media.  |   |

|   |   |   |
|---|---|---|
| <b>SECTION 6. Accidental release measures</b> |   |   |
| 6.1.  | Personal precautions, protective equipment and emergency procedures   |   |
| 6.1.1.  | For non-emergency personnel   |   |
|   | Protective equipment:   | Use personal protective equipment (see Section 8).  |
|   | Accident prevention methods:  | Evacuate members of all non-essential personnel and those members without protective equipment. Remove all sources of sparks and ignition. Do not smoke.  |
|   | Emergency procedures:   | Mark the area using proper signs.   |
| 6.1.2.  | For emergency responders:   |   |
|   | Wear protective equipment (see Section 8).  |   |
| 6.2.  | Environmental precautions:  |   |
|   | Do not dispose of in sewage, drainage system and waterways. In case of large spillage contact National Protection and Rescue Directorate (NPRD) on 112. |   |
| 6.3.  | Methods and material for containment and cleaning up  |   |
| 6.3.1.  | Bundling, covering of drains; capping procedures:   | Sand or clay barriers.  |
| 6.3.2.  | Cleaning up:  | Where possible, the substance can be absorbed by using inflammable material (sand, diatomaceous earth, vermiculite). Place the waste material in tightly closed impermeable containers. Store the substance in well ventilated storage rooms until disposal. Submit for disposal to the legal persons authorized by the Ministry of Environmental and Nature Protection. After disposal of the products, wash the area and involved materials with water. |
| 6.3.3.  | Other information:  | -   |
| 6.4.  | Reference to other sections   |   |

|               |                                    |                      |             |
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|  |  |
|--|--|
|  | <p>See Section 7 for information about secure handling.</p> <p>See Section 8 for information about personal protective equipment.</p> <p>See Section 13 for information about containment.</p> |
|--|--|

| SECTION 7. Handling and storage |  |   |
|---------------------------------|--|---|
| 7.1.                            | Precautions for safe handling  |   |
| 7.1.1.                          | Protection measures  |   |
|                                 | Measures to prevent fire:  | Keep away from sources of heat and ignition. Do not smoke.  |
|                                 | Measures to prevent aerosol and dust generation:   | Secure proper ventilation.  |
|                                 | Measures to protect the environment:   | Prevent spilling into the sewage system and waterways.  |
|                                 | Other measures:  | -   |
| 7.1.2.                          | Advice on general occupational hygiene:  |   |
|                                 | Do not eat, drink or smoke in the workspace. Thoroughly wash hands after work and before eating. |   |
| 7.2.                            | Conditions for safe storage, including any incompatibilities                                     |   |
|                                 | Technical measures and storage conditions:   | Keep in tightly closed and upright set containers in a well ventilated storage rooms, and away from sources of heat, sunlight, and other incompatible substances.           |
|                                 | Packaging materials:   | Manufacturer's original packaging.  |
|                                 | Requirements for storage rooms and vessels:  | Keep away from food and drink. Keep the containers tightly closed.  |
|                                 | Advices for storage equipment:   | The storage must be made of hard material; floors must be resistant to chemicals. There must be no drain that directly leads into sewage system. Secure proper ventilation. |
|                                 | Further information on storage conditions:   | Do not place the unused material in the storage room and do not use empty containers for storing other chemicals. Do not store with incompatible materials (see Section 9). |
| 7.3.                            | Specific end use(s)  |   |
|                                 | Recommendations:   | -   |
|                                 | Industrial sector specific solutions:  | -   |

| SECTION 8. Exposure controls/personal protection |                    |        |  |                         |
|--|--------------------|--------|--|-------------------------|
| 8.1.   | Control parameters |        |  |                         |
|  | Substance          | CAS No | Occupational exposure limit values/short term values | Biological limit values |
|  |                    |        | ppm  | mg/m <sup>3</sup>       |

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|   |   |   |   |                          |
|---|---|---|---|--------------------------|
| - | - | - | - | No information available |
|---|---|---|---|--------------------------|

|                 |   |         |   |  |
|-----------------|---|---------|---|--|
| Substance name: | - |         |   |  |
| EC No:          | - | CAS No: | - |  |

**DNEL**

**Industrial**

| Route of exposure: | Acute effect local | Acute effect systemic | Chronic effect local | Chronic effect systemic |
|--------------------|--------------------|-----------------------|----------------------|-------------------------|
| Oral               | -                  | -                     | -                    | -                       |
| Inhalation         | -                  | -                     | -                    | -                       |
| Dermal             | -                  | -                     | -                    | -                       |

Critical physical parameters: solubility, flammability, corrosivity: -

**Consumer**

| Route of exposure: | Acute effect local | Acute effect systemic | Chronic effect local | Chronic effect systemic |
|--------------------|--------------------|-----------------------|----------------------|-------------------------|
| Oral               | -                  | -                     | -                    | -                       |
| Inhalation         | -                  | -                     | -                    | -                       |
| Dermal             | -                  | -                     | -                    | -                       |

**PNEC**

| Environmental protection target    | PNEC                     |
|------------------------------------|--------------------------|
| Fresh water                        | No information available |
| Freshwater sediments               | No information available |
| Marine water                       | No information available |
| Marine sediments                   | No information available |
| Food chain                         | No information available |
| Microorganisms in sewage treatment | No information available |
| Soil (agricultural)                | No information available |
| Air                                | No information available |

**8.2. Exposure controls**

**8.2.1. Appropriate engineering controls**

|  |   |
|--|---|
| Substance/mixture related measures to prevent exposure during identified uses: | Use the product in well ventilated rooms. Use personal protective equipment. Do not eat, drink or smoke in the workspace. |
| Structural measures to prevent exposure:                                       | No information available  |

|               |                                    |                      |             |
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|          |   |  |
|----------|---|--|
|          | Organisational measures to prevent exposure:            | Organization of work in order to reduce other worker's influence during work process.  |
|          | Technical measures to prevent exposure:                 | Secure proper workspace ventilation in order to keep concentration levels in air below permitted levels.   |
| 8.2.2.   | <b>Personal protection equipment</b>                    |  |
| 8.2.2.1. | Eye and face protection:                                | Safety glasses that stick to face (preventing splashing) (EN 166) or visor.  |
| 8.2.2.2. | Skin protection   |  |
|          | Hand protection:  | Protective gloves must be according to the EU Directive 2016/425/EEC and standard EN 374.<br>Glove material: nitrile rubber<br>Glove thickness: ≥0.50 mm<br>Break through time: >480 min             |
|          | Other skin protection:                                  | Wear antistatic clothing made of natural fibers (such as cotton) with long sleeves (EN 13034), and shoes that cover the entire foot (EN 10335).  |
| 8.2.2.3. | Respiratory protection:                                 | Protective full face mask (EN 136) or half mask (EN 140) equipped with a filter for organic vapors, type "A" (boiling point >65°C) according to EN 14387) used when concentration levels exceed GVI. |
| 8.2.2.4. | Thermal hazards:  | No information available   |
| 8.2.3.   | <b>Environmental exposure controls</b>                  |  |
|          | Substance/mixture related measures to prevent exposure: | See Section 6  |
|          | Structural measures to prevent exposure:                | Use modern equipment.  |
|          | Organisational measures to prevent exposure:            | Adapt the work process to the required working conditions of the workplace.  |
|          | Technical measures to prevent exposure:                 | See Section 6  |

**SECTION 9. Physical and chemical properties**

|      |   |   |                          |
|------|---|---|--------------------------|
| 9.1. | Information on basic physical and chemical properties     |   |                          |
|      |   | Value                                     | Method                   |
|      | Physical state:   | liquid                                    | No information available |
|      | Colour:   | blue                                      | No information available |
|      | Odour/odour threshold:                                    | acetic acid like/no information available | No information available |
|      | Melting point / freezing point:                           | No information available                  | No information available |
|      | Boiling point or initial boiling point and boiling range: | No information available                  | No information available |

|               |                                    |                      |             |
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|  |                          |                          |
|--|--------------------------|--------------------------|
| Flammability:                                      | No information available | No information available |
| Lower and upper explosion limit:                   | No information available | No information available |
| Flash point:                                       | No information available | No information available |
| Auto-ignition temperature:                         | No information available | No information available |
| Decomposition temperature:                         | No information available | No information available |
| pH:  | 2.45 -2.55               | No information available |
| Kinematic viscosity:                               | No information available | No information available |
| Solubility:  | No information available | No information available |
| Partition coefficient n-octanol/water (log value): | No information available | No information available |
| Vapour pressure:                                   | No information available | No information available |
| Density and/or relative density:                   | No information available | No information available |
| Relative vapour density:                           | No information available | No information available |
| Particle characteristics:                          | No information available | No information available |
| <b>9.2.</b>  | <b>Other information</b> |                          |
|  | -                        |                          |

| <b>SECTION 10. Stability and reactivity</b> |                                     |  |
|---|-------------------------------------|--|
| 10.1.                                       | Reactivity:                         | See subsections 10.3 through 10.5.   |
| 10.2.                                       | Chemical stability:                 | The product is chemically stable under standard ambient conditions of storing and using. |
| 10.3.                                       | Possibility of hazardous reactions: | No information available.  |
| 10.4.                                       | Conditions to avoid:                | No information available.  |
| 10.5.                                       | Incompatible materials:             | No information available.  |
| 10.6.                                       | Hazardous decomposition products:   | No information available.  |

| <b>SECTION 11. Toxicological information</b> |                                      |         |   |               |         |
|--|--------------------------------------|---------|---|---------------|---------|
| 11.1.  | Information on toxicological effects |         |   |               |         |
|  | Acute toxicity:                      |         |   |               |         |
| Route of exposure:                           | Method                               | Species | Effective dose<br>LD <sub>50</sub> /LC <sub>50</sub> or<br>ATE <sub>mixture</sub> | Exposure time | Results |
| Oral exposure:                               | No information available             | -       | LD <sub>50</sub>  | -             | -       |
| Dermal exposure:                             | No information available             | -       | LD <sub>50</sub>  | -             | -       |

|               |                                    |                      |             |          |   |
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|                      |                          |   |                  |   |   |
|----------------------|--------------------------|---|------------------|---|---|
| Inhalation exposure: | No information available | - | LC <sub>50</sub> | - | - |
|----------------------|--------------------------|---|------------------|---|---|

|   |  |  |  |  |  |
|---|--|--|--|--|--|
| Specific target organ toxicity – single exposure (STOT SE): |  |  |  |  |  |
|---|--|--|--|--|--|

|                      | Specific effects         | Target organ             | Note |
|----------------------|--------------------------|--------------------------|------|
| Oral exposure:       | No information available | No information available | -    |
| Dermal exposure:     | No information available | No information available | -    |
| Inhalation exposure: | No information available | No information available | -    |

|                         |                          |  |  |  |  |
|-------------------------|--------------------------|--|--|--|--|
| Respiratory irritation: | No information available |  |  |  |  |
|-------------------------|--------------------------|--|--|--|--|

|                          |  |  |  |  |  |
|--------------------------|--|--|--|--|--|
| Irritation and corrosion |  |  |  |  |  |
|--------------------------|--|--|--|--|--|

|                  | Exposure time | Species | Evaluation | Method | Note |
|------------------|---------------|---------|------------|--------|------|
| Skin irritation: | -             | -       | -          | -      | -    |
| Eye irritation:  | -             | -       | -          | -      | -    |

|               |  |  |  |  |  |
|---------------|--|--|--|--|--|
| Sensitization |  |  |  |  |  |
|---------------|--|--|--|--|--|

|                      |                          |  |  |  |  |
|----------------------|--------------------------|--|--|--|--|
| Dermal exposure:     | No information available |  |  |  |  |
| Inhalation exposure: | No information available |  |  |  |  |

|  |  |  |  |  |  |
|--|--|--|--|--|--|
| Symptoms related to the physical, chemical and toxicological characteristics |  |  |  |  |  |
|--|--|--|--|--|--|

|                      |                          |  |  |  |  |
|----------------------|--------------------------|--|--|--|--|
| Oral exposure:       | No information available |  |  |  |  |
| Dermal exposure:     | No information available |  |  |  |  |
| Inhalation exposure: | No information available |  |  |  |  |
| Eye exposure:        | No information available |  |  |  |  |

|  |  |  |  |  |  |
|--|--|--|--|--|--|
| Repeated dose toxicity (subacute, subchronic, chronic) |  |  |  |  |  |
|--|--|--|--|--|--|

|                 | Dose                     | Exposure time            | Species                  | Method                   | Evaluation               | Note |
|-----------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|------|
| Subacute oral   | No information available | No information available | No information available | No information available | No information available | -    |
| Subacute dermal | No information available | No information available | No information available | No information available | No information available | -    |

|               |                                    |                      |             |          |   |  |
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|                       |                          |                          |                          |                          |                          |   |
|-----------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---|
| Subacute inhalation   | No information available | No information available | No information available | No information available | No information available | - |
| Subchronic oral       | No information available | No information available | No information available | No information available | No information available | - |
| Subchronic dermal     | No information available | No information available | No information available | No information available | No information available | - |
| Subchronic inhalation | No information available | No information available | No information available | No information available | No information available | - |
| Chronic oral          | No information available | No information available | No information available | No information available | No information available | - |
| Chronic dermal        | No information available | No information available | No information available | No information available | No information available | - |
| Chronic inhalation    | No information available | No information available | No information available | No information available | No information available | - |

Specific target organ toxicity – repeated exposure (STOT RE):

|                       | Specific effects         | Target organ             | Note |
|-----------------------|--------------------------|--------------------------|------|
| Subacute oral         | No information available | No information available | -    |
| Subacute dermal       | No information available | No information available | -    |
| Subacute inhalation   | No information available | No information available | -    |
| Subchronic oral       | No information available | No information available | -    |
| Subchronic dermal     | No information available | No information available | -    |
| Subchronic inhalation | No information available | No information available | -    |
| Chronic oral          | No information available | No information available | -    |
| Chronic dermal        | No information available | No information available | -    |
| Chronic inhalation    | No information available | No information available | -    |

CMR effects (carcinogenicity, mutagenicity, reproductive toxicity)

|                                |                          |
|--------------------------------|--------------------------|
| Carcinogenicity:               | No information available |
| Mutagenicity <i>in-vitro</i> : | No information available |
| Genotoxicity:                  | No information available |
| Mutagenicity <i>in-vivo</i> :  | No information available |

|               |                                    |                      |             |          |   |
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|         |  |                          |  |  |  |
|---------|--|--------------------------|--|--|--|
|         | Germ cell mutagenicity:  | No information available |  |  |  |
|         | Reproductive toxicity:   | No information available |  |  |  |
|         | Summary of evaluation of the CMR properties:   | -                        |  |  |  |
| 11.2    | Information on other hazards:  |                          |  |  |  |
| 11.2.1. | Endocrine disrupting properties:   |                          |  |  |  |
|         | <p>The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.</p> |                          |  |  |  |
| 11.2.2. | Other informations:  |                          |  |  |  |
|         | -  |                          |  |  |  |

| SECTION 12. Ecological information |                  |               |                          |                          |            |      |
|------------------------------------|------------------|---------------|--------------------------|--------------------------|------------|------|
| 12.1. Toxicity                     |                  |               |                          |                          |            |      |
| Acute toxicity                     | Dose             | Exposure time | Species                  | Method                   | Evaluation | Note |
| Fish                               | LC <sub>50</sub> | 96 hours      | No information available | No information available | -          | -    |
| Crustacea:                         | EC <sub>50</sub> | 48 hours      | No information available | No information available | -          | -    |
| Algae/aquatic plants               | IC <sub>50</sub> | 8 days        | No information available | No information available | -          | -    |
| Microorganisms                     | LC <sub>50</sub> | 72 hours      | -                        | -                        | -          | -    |
| Chronic toxicity                   | Dose             | Exposure time | Species                  | Method                   | Evaluation | Note |
| Fish                               | LC <sub>50</sub> | 96 hours      | No information available | No information available | -          | -    |
| Crustacea:                         | EC <sub>50</sub> | 48 hours      | No information available | No information available | -          | -    |

|               |                                    |                      |             |          |   |
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|----------------------|------------------|----------|--------------------------|--------------------------|---|---|
| Algae/aquatic plants | IC <sub>50</sub> | 72 hours | No information available | No information available | - | - |
| Other organisms      | -                | -        | -                        | -                        | - | - |

**12.2. Persistence and degradability**

**Abiotic degradation**

|              | Degradation half-lives   | Method                   | Evaluation               | Note |
|--------------|--------------------------|--------------------------|--------------------------|------|
| Marine water | No information available | No information available | No information available | -    |
| Fresh water  | No information available | No information available | No information available | -    |
| Air          | No information available | No information available | No information available | -    |
| Soil         | No information available | No information available | No information available | -    |

**Biodegradation**

| % Degradation            | Time (days)              | Method                   | Evaluation               | Note                     |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| No information available | No information available | No information available | No information available | No information available |
|                          |                          |                          |                          |                          |

**12.3. Bioaccumulative potential**

**Partition coefficient: n-octanol/water (log K<sub>ow</sub>):**

| Value | Concentration            | pH | °C | Method                   | Evaluation               | Note |
|-------|--------------------------|----|----|--------------------------|--------------------------|------|
| -     | No information available | -  | -  | No information available | No information available | -    |
|       |                          |    |    |                          |                          |      |

**Bioconcentration factor (BCF)**

| Value                    | Species                  | Method                   | Evaluation               | Note                     |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| No information available | No information available | No information available | No information available | No information available |
|                          |                          |                          |                          |                          |

**Chronic ecotoxicity**

|               |                                    |                      |             |          |   |
|---------------|------------------------------------|----------------------|-------------|----------|---|
| Trading name: | <b>ALCIAN BLUE SOLUTION pH 2.5</b> |                      |             |          |   |
| Product code: | AB10-OT-X**                        | Date of compilation: | 21 Dec 2022 | Version: | 6 |

| Value  | Dose             | Exposure time            | Species                  | Method                   | Evaluation               | Note |
|--|------------------|--------------------------|--------------------------|--------------------------|--------------------------|------|
| Chronic toxicity on fish                         | LC <sub>50</sub> | No information available | No information available | No information available | No information available | -    |
| Chronic toxicity on crustacea ( <i>Daphnia</i> ) | EC <sub>50</sub> | No information available | No information available | No information available | No information available | -    |

**12.4. Mobility in soil**

| Known or predicted distribution in environmental compartments: |                          |                          |                          |  |      |
|--|--------------------------|--------------------------|--------------------------|--|------|
| No information available                                       |                          |                          |                          |  |      |
| Surface tension:   |                          |                          |                          |  |      |
| Value  | °C                       | Concentration            | Method                   |  | Note |
| No information available                                       | No information available | No information available | No information available |  | -    |

**Adsorption / desorption**

| Transport  | A/D coefficient<br>Henry's constant |                          | log Kow                  | Evaporation rate         | Method                   | Note |
|------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|------|
| Soil-water | No information available            | No information available | No information available | No information available | No information available | -    |
| Water-air  | No information available            | No information available | No information available | No information available | No information available | -    |
| Soil-air   | No information available            | No information available | No information available | No information available | No information available | -    |

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

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**12.6. Endocrine disrupting properties**

|               |                                    |                      |             |
|---------------|------------------------------------|----------------------|-------------|
| Trading name: | <b>ALCIAN BLUE SOLUTION pH 2.5</b> |                      |             |
| Product code: | AB10-OT-X**                        | Date of compilation: | 21 Dec 2022 |
|               |                                    | Version:             | 6           |

|  |   |
|--|---|
|  | The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. |
|--|---|

|       |                       |
|-------|-----------------------|
| 12.7. | Other adverse effects |
|-------|-----------------------|

|  |                          |
|--|--------------------------|
|  | No information available |
|--|--------------------------|

|  |  |
|--|--|
| <b>SECTION 13. Disposal considerations</b> |  |
|--|--|

|       |                         |
|-------|-------------------------|
| 13.1. | Waste treatment methods |
|-------|-------------------------|

|         |                             |
|---------|-----------------------------|
| 13.1.1. | Product/Packaging disposal: |
|---------|-----------------------------|

|  |  |
|--|--|
|  | Submit for disposal to the legal person authorized by the Ministry of Environmental and Nature Protection. |
|--|--|

|         |  |
|---------|--|
| 13.1.2. | Waste codes/waste designations according to Law: |
|---------|--|

|  |                          |
|--|--------------------------|
|  | No information available |
|--|--------------------------|

|         |   |
|---------|---|
| 13.1.3. | Waste treatment – relevant information: |
|---------|---|

|  |                          |
|--|--------------------------|
|  | No information available |
|--|--------------------------|

|         |   |
|---------|---|
| 13.1.4. | Sewage disposal – relevant information: |
|---------|---|

|  |   |
|--|---|
|  | Waste must not be disposed of into the sewage system. |
|--|---|

|         |                                 |
|---------|---------------------------------|
| 13.1.5. | Other disposal recommendations: |
|---------|---------------------------------|

|  |   |
|--|---|
|  | Do not dispose of the product's remains into the sewage system. Submit the remains to the collectors authorized by the ministry in charge. Do not dispose of the packaging into the sewage system. Submit the packaging to the collectors authorized by the ministry in charge. Do not dispose of in places where ignition may occur. |
|--|---|

|         |                                |
|---------|--------------------------------|
| 13.1.6. | Relevant Community provisions: |
|---------|--------------------------------|

|  |   |
|--|---|
|  | - |
|--|---|

|  |  |
|--|--|
| <b>SECTION 14. Transport information</b> |  |
|--|--|

|  |                                     |
|--|-------------------------------------|
|  | Transporting/shipment by road (ADR) |
|--|-------------------------------------|

|            |                                       |
|------------|---------------------------------------|
| UN number: | Not subject to transport regulations. |
|------------|---------------------------------------|

|                          |   |
|--------------------------|---|
| UN proper shipping name: | - |
|--------------------------|---|

|                             |   |
|-----------------------------|---|
| Transport hazard class(es): | - |
|-----------------------------|---|

|                |   |
|----------------|---|
| Packing group: | - |
|----------------|---|

|               |                                    |                      |             |
|---------------|------------------------------------|----------------------|-------------|
| Trading name: | <b>ALCIAN BLUE SOLUTION pH 2.5</b> |                      |             |
| Product code: | AB10-OT-X**                        | Date of compilation: | 21 Dec 2022 |
|               |                                    | Version:             | 6           |

|   |                                       |
|---|---------------------------------------|
| Environmentally hazardous:                      | -                                     |
| Special precautions for user:                   | -                                     |
| Transporting/shipment by rail (RID)             |                                       |
| UN number:                                      | Not subject to transport regulations. |
| UN proper shipping name:                        | -                                     |
| Transport hazard class(es):                     | -                                     |
| Packing group:                                  | -                                     |
| Environmentally hazardous:                      | -                                     |
| Special precautions for user:                   | -                                     |
| Inland waterway transport (ADN)                 |                                       |
| UN number:                                      | Not subject to transport regulations. |
| UN proper shipping name:                        | -                                     |
| Transport hazard class(es):                     | -                                     |
| Packing group:                                  | -                                     |
| Environmentally hazardous:                      | -                                     |
| Special precautions for user:                   | -                                     |
| Transporting/shipment by sea (IMDG)             |                                       |
| UN number:                                      | Not subject to transport regulations. |
| UN proper shipping name:                        | -                                     |
| Transport hazard class(es):                     | -                                     |
| Packing group:                                  | -                                     |
| Environmentally hazardous:                      | -                                     |
| Special precautions for user:                   | -                                     |
| Transporting/shipment by air (ICAO-TI/IATA-DGR) |                                       |
| UN number:                                      | Not subject to transport regulations. |
| UN proper shipping name:                        | -                                     |
| Transport hazard class(es):                     | -                                     |
| Packing group:                                  | -                                     |
| Environmentally hazardous:                      | -                                     |
| Special precautions for user:                   | -                                     |
| Further information:                            | -                                     |

**SECTION 15. Regulatory information**

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

|               |                                    |                      |             |          |   |
|---------------|------------------------------------|----------------------|-------------|----------|---|
| Trading name: | <b>ALCIAN BLUE SOLUTION pH 2.5</b> |                      |             |          |   |
| Product code: | AB10-OT-X**                        | Date of compilation: | 21 Dec 2022 | Version: | 6 |

|  |  |
|--|--|
| EU regulations   |  |
| Authorization and/or restrictions of use   |  |
| Authorizations:  | -  |
| Restrictions:  | -  |
| Other EU regulations:  | <p>Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC;</p> <p>Directive 2004/42/CE of the European Parliament and of the Council of 21 April 2004 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC;</p> <p>Council Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work;</p> <p>Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006;</p> <p>REACH Restrictions on the manufacturing, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII);</p> |
| Information according 1999/13/EC about limitation of emissions of volatile organic compounds (VOC-guideline) |  |
| National legislation:  | <p>Chemicals Act, Regulation on classification, packaging and labeling of dangerous substances, Ordinance on occupational exposure limit values and on biological limit values, Regulation on categories, types and classification of waste with a waste catalog and list of hazardous waste, Ordinance on writing Material safety data sheet, Transport of Hazardous Substances Act</p>   |
| 15.2.  | Chemical safety assessment   |
|  | None   |

|                                      |                          |
|--------------------------------------|--------------------------|
| <b>SECTION 16. Other information</b> |                          |
| 16.1.                                | Indication of changes: - |

|               |                                    |                      |             |            |
|---------------|------------------------------------|----------------------|-------------|------------|
| Trading name: | <b>ALCIAN BLUE SOLUTION pH 2.5</b> |                      |             |            |
| Product code: | AB10-OT-X**                        | Date of compilation: | 21 Dec 2022 | Version: 6 |

|       |   |   |
|-------|---|---|
| 16.2. | Abbreviations and acronyms:   | <p>ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)</p> <p>IMDG: International Maritime Code for Dangerous Goods</p> <p>IATA: International Air Transport Association</p> <p>GHS: Globally Harmonised System of Classification and Labelling of Chemicals</p> <p>EINECS: European Inventory of Existing Commercial Chemical Substances</p> <p>CAS: Chemical Abstracts Service (division of the American Chemical Society)</p> <p>DNEL: Derived No-Effect Level (UK REACH)</p> <p>LC50: Lethal concentration, 50 percent</p> <p>LD50: Lethal dose, 50 percent</p> <p>PBT: Persistent, Bioaccumulative and Toxic</p> <p>vPvB: very Persistent and very Bioaccumulative</p> |
| 16.3. | Key literature references and source of data:   | -   |
| 16.4. | Classification and procedure used to derive the classification for mixture according to Regulation (EC) 1272/2008 (CLP) |   |
|       | Classification  | Classification procedure  |
|       | -   | -   |
| 16.5. | Relevant H statements (number and full text)  |   |
|       | H: 226<br>314   | Flamamable liquid and vapour.<br>Causes severe skin burns and eye damage.   |
| 16.6. | Training advice:  | -   |
| 16.7. | Further information:  | <p>** "X" in the product code marks different volumes (different packagings of the product)</p> <p>We are not responsible for consequences in case of failure to comply with instructions for use or improper use of the product described in this material safety data sheet.</p>  |



|  |
|--|
| <b>ANNEX:</b>  |
| <b>Exposure scenario resulting to Chemical safety assessment</b> |
| -  |

|               |                                     |                |                  |          |   |
|---------------|-------------------------------------|----------------|------------------|----------|---|
| Trading name: | <b>SODIUM TETRABORATE, SOLUTION</b> |                |                  |          |   |
| Product code: | NTB-OT-X**                          | Revision date: | 14 November 2022 | Version: | 7 |

| <b>SECTION 1: Identification of the substance/mixture and of the company/undertaking</b> |   |  |
|--|---|--|
| 1.1  | Product identifier  |  |
|  | Trading name:   | SODIUM TETRABORATE, SOLUTION   |
|  | Chemical name:  | -  |
|  | Catalogue number:   | NTB-OT-X**   |
| 1.2  | Relevant identified uses of the substance or mixture and uses advised against |  |
|  | Uses:   | For use with special staining kits.  |
|  | Uses advised against:   | Only the identified uses are advised.  |
|  | Reason why uses advised against:  | The product is intended for use only as an <i>in vitro</i> diagnostic medical device, registered at the Agency for Medicinal Products and Medical Devices and there is no reason to use it for other purposes. |
| 1.3  | Details of the supplier of the safety data sheet                              |  |
|  | Supplier:   | BioGnost Ltd.  |
|  | Address:  | Medjugorska 59, Zagreb   |
|  | Telephone number:   | +385 1 2409997   |
|  | Telefax.:   | +385 1 2404039   |
|  | e-mail of competent person:   | <a href="mailto:msds@biognost.hr">msds@biognost.hr</a>   |
|  | National contact:   | -  |
| 1.4  | Emergency telephone number  |  |
|  | National Protection and Rescue Directorate:                                   | 112  |
|  | Medical information:  | +385 1 2348 342  |
|  | Other information:  | -  |

| <b>SECTION 2. Hazards identification</b>                           |  |                              |
|--|--|------------------------------|
| 2.1  | Classification of the substance or mixture                     |                              |
| 2.1.1  | Classification according to Regulation (EC) No 1272/2008 (CLP) |                              |
|  | Hazard class and category code:                                | Hazard statements*:          |
|  | Flam. Liq. 2   | H225                         |
|  | Eye Irr. 2   | H319                         |
|  | STOT SE 3  | H336                         |
| 2.1.2.   | Additional information   |                              |
|  | -  |                              |
| *For full text of Hazard- and EU Hazard-statements: see SECTION 16 |  |                              |
| 2.2  | Label elements   |                              |
|  | Product identification:  | SODIUM TETRABORATE, SOLUTION |
|  | Identification number:   | -                            |

|               |                                     |                |                  |          |   |
|---------------|-------------------------------------|----------------|------------------|----------|---|
| Trading name: | <b>SODIUM TETRABORATE, SOLUTION</b> |                |                  |          |   |
| Product code: | NTB-OT-X**                          | Revision date: | 14 November 2022 | Version: | 7 |

|                                       |  |
|---------------------------------------|--|
| Authorization number:                 | -  |
| Hazard pictograms:                    |  <br>GHS02                      GHS07  |
| Signal word:                          | Danger   |
| Hazard statements:                    | H225 Highly flammable liquid and vapor.<br>H319 Causes serious eye irritation.<br>H336 May cause drowsiness or dizziness   |
| Precautionary statements:             | P210 Keep away from heat/sparks/open flames/hot surfaces. Do not smoke.<br>P280 Wear protective gloves/protective clothing/eye/protection/face protection.<br>P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.<br>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| Supplemental hazard information (EU): | -  |

**2.3 Other hazards**

**Endocrine Disrupting Properties:**  
No known endocrine disrupting properties.  
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**SECTION 3. Composition/information on ingredients**

| CAS/<br>EC/<br>Index number              | REACH Registration<br>No  | Weight % content<br>(or range) | Identification name | Classification according to<br>Regulation (EC) No<br>1272/2008 (CLP) |
|--|---------------------------|--------------------------------|---------------------|--|
| 64-17-5/<br>200-578-6/<br>603-002-00-5   | 01-2119457610-43-<br>0147 | 40 - 60 %                      | ethanol             | Flam. Liq. 2; H225   |
| 67-63-0/<br>200-661-7/<br>603-117-00-0   | -                         | 20 - 30 %                      | propan-2-ol         | Flam. Liq. 2; H225<br>Eye Irr. 2; H319<br>STOT SE 3; H336            |
| 1330-43-4/<br>215-540-4/<br>005-011-00-4 | -                         | < 0.5 %                        | sodium tetraborate  | Eye Irr. 2; H319<br>Repr. 1B; H360FD                                 |

|               |                                     |                |                  |          |   |
|---------------|-------------------------------------|----------------|------------------|----------|---|
| Trading name: | <b>SODIUM TETRABORATE, SOLUTION</b> |                |                  |          |   |
| Product code: | NTB-OT-X**                          | Revision date: | 14 November 2022 | Version: | 7 |

**SECTION 4. First aid measures**

|     |  |  |
|-----|--|--|
| 4.1 | Description of first aid measures  |  |
|     | General notes:   | If the suggested first aid measures do not prove sufficient, seek medical attention.   |
|     | Following inhalation:  | Carry the afflicted person out of the contaminated area into a well-ventilated area or out for fresh air. In case of difficult breathing, provide the afflicted person with oxygen.  |
|     | Following skin contact:  | Remove contaminated clothing. Immediately wash with plenty of water for at least 20 minutes. Seek medical assistance if the symptoms of irritation remain.   |
|     | Following eye contact:   | Rinse out with plenty of water with the eyelid held wide open for at least 20 minutes. If the symptoms remain, immediately call in ophthalmologist.  |
|     | Following ingestion:   | Do not induce vomiting. Do not insert any object into the unconscious person's mouth. Immediately consult a physician and show the container or label. In case of swallowing large quantities, transport the afflicted person to the hospital. |
|     | Self-protection of the first aider:  | -  |
| 4.2 | Most important symptoms and effects, both acute and delayed                |  |
|     | Following inhalation:  | Central nervous system depression, prolonged or repeated exposure can cause: nausea, headache, vomiting, narcosis, drowsiness.   |
|     | Following skin contact:  | Defatting, dry skin.   |
|     | Following eye contact:   | Depending on concentration and exposure time, it may lead to irritation, tearing, redness and pain.  |
|     | Following ingestion:   | Overexposure may cause mild, reversible liver effects. Aspiration may lead to: lung edema, pneumonia   |
| 4.3 | Indication of any immediate medical attention and special treatment needed |  |
|     | -  |  |

**SECTION 5. Firefighting measures**

|     |   |  |
|-----|---|--|
| 5.1 | Extinguishing media                                   |  |
|     | Suitable extinguishing media:                         | Carbon dioxide (CO <sub>2</sub> ), foam, dry powder.   |
|     | Unsuitable extinguishing media:                       | No information available.  |
| 5.2 | Special hazards arising from the substance or mixture |  |
|     | Hazardous combustion products:                        | Carbon oxides Combustible. Pay attention to flashback. Vapors are heavier than air and may spread along floors. Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures. |
| 5.3 | Advice for firefighters                               |  |

|               |                                     |                |                  |            |
|---------------|-------------------------------------|----------------|------------------|------------|
| Trading name: | <b>SODIUM TETRABORATE, SOLUTION</b> |                |                  |            |
| Product code: | NTB-OT-X**                          | Revision date: | 14 November 2022 | Version: 7 |

|     |  |
|-----|--|
|     | Use a self-contained open-circuit compressed air breathing apparatus and fireproof clothing.   |
| 5.4 | Additional information   |
|     | Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system. |

|   |  |
|---|--|
| <b>SECTION 6. Accidental release measures</b> |  |
| 6.1   | Personal precautions, protective equipment and emergency procedures  |
| 6.1.1.  | For non-emergency personnel  |
|   | Protective equipment: Use personal protective equipment (see Section 8).   |
|   | Accident prevention methods: Evacuate members of all non-essential personnel and those members without protective equipment. Avoid breathing vapors and avoid contact with skin and eyes. Do not smoke. Keep away from ignition sources.   |
|   | Emergency procedures: Mark the area using proper signs.  |
| 6.1.2.  | For emergency responders:  |
|   | Use protective equipment; in case of inadequate ventilation use adequate airways protective equipment (see Section 8).   |
| 6.2   | Environmental precautions:   |
|   | Do not dispose of in sewage, drainage system and waterways. In case of large spillage contact National Protection and Rescue Directorate (NPRD) on 112.  |
| 6.3   | Methods and material for containment and cleaning up   |
| 6.3.1.  | Bunding, covering of drains; capping procedures: Sand protective barrier or barriers made of similar materials.  |
| 6.3.2.  | Cleaning up: Where possible, the substance can be absorbed by using absorbing material. Place the waste material in tightly closed impermeable containers. Store the substance in well ventilated storage rooms until disposal. Submit for disposal to the legal persons authorized by the Ministry of Environmental and Nature Protection. After disposal of the products, wash the area and involved materials with water. |
| 6.3.3.  | Other information: Secure proper ventilation. Do not use incompatible materials (see Section 10).  |
| 6.4   | Reference to other sections  |
|   | See Section 7 for information on safe handling.<br>See Section 8 for information on personal protection equipment.<br>See Section 13 for disposal information.   |

|  |                               |
|--|-------------------------------|
| <b>SECTION 7. Handling and storage</b> |                               |
| 7.1                                    | Precautions for safe handling |
| 7.1.1.                                 | Protection measures           |

|               |                                     |                |                  |            |
|---------------|-------------------------------------|----------------|------------------|------------|
| Trading name: | <b>SODIUM TETRABORATE, SOLUTION</b> |                |                  |            |
| Product code: | NTB-OT-X**                          | Revision date: | 14 November 2022 | Version: 7 |

|        |  |  |
|--------|--|--|
|        | Measures to prevent fire:  | Use in well ventilated storage rooms. Keep away from sources of ignition and heat. Do not use tools that cause sparks. Do not smoke.   |
|        | Measures to prevent aerosol and dust generation:   | Secure proper ventilation.   |
|        | Measures to protect the environment:   | Prevent spilling into the sewage system and waterways.   |
|        | Other measures:  | Protect against electrostatic charges.   |
| 7.1.2. | Advice on general occupational hygiene:  |  |
|        | Do not eat, drink or smoke in the workspace. Thoroughly wash hands after work and before eating. |  |
| 7.2    | Conditions for safe storage, including any incompatibilities                                     |  |
|        | Technical measures and storage conditions:   | Keep in tightly closed and upright set containers in a well ventilated storage rooms at temperatures ranging from 15 to 25 °C. Protect from heat and direct sunlight.        |
|        | Packaging materials:   | Manufacturer's original packaging. Suitable material: HDPE containers.   |
|        | Requirements for storage rooms and vessels:  | Keep away from food and drink. Keep the containers tightly closed.   |
|        | Advices for storage equipment:   | The storage must be made of hard material; floors must be resistant to chemicals. There must be no drain that directly leads into sewage system. Secure proper ventilation.  |
|        | Further information on storage conditions:   | Do not place the unused material in the storage room and do not use empty containers for storing other chemicals. Do not store with incompatible materials (see Section 10). |
| 7.3    | Specific end use(s)  |  |
|        | Recommendations:   | -  |
|        | Industrial sector specific solutions:  | -  |

**SECTION 8. Exposure controls/personal protection**

8.1 Control parameters

| Substance   | CAS No  | Occupational exposure limit values/short term values |                   | Biological limit values |
|-------------|---------|--|-------------------|-------------------------|
|             |         | ppm  | mg/m <sup>3</sup> |                         |
| Ethanol     | 64-17-5 | 1000/-   | 1900/-            | -                       |
| Propan-2-ol | 67-63-0 | 400/500  | 999/1250          | -                       |

|                 |   |
|-----------------|---|
| Substance name: | - |
|-----------------|---|

|               |                                     |                |                  |          |   |
|---------------|-------------------------------------|----------------|------------------|----------|---|
| Trading name: | <b>SODIUM TETRABORATE, SOLUTION</b> |                |                  |          |   |
| Product code: | NTB-OT-X**                          | Revision date: | 14 November 2022 | Version: | 7 |

|        |   |         |   |  |
|--------|---|---------|---|--|
| EC No: | - | CAS No: | - |  |
|--------|---|---------|---|--|

**DNEL**

**Industrial**

| Route of exposure: | Acute effect local               | Acute effect systemic | Chronic effect local | Chronic effect systemic  |
|--------------------|----------------------------------|-----------------------|----------------------|--|
| Oral               | -                                | -                     | -                    | -  |
| Inhalation         | 1900 mg/m <sup>3</sup> (ethanol) | -                     | -                    | 380 mg/m <sup>3</sup> (ethanol)<br>500 mg/m <sup>3</sup> (propan-2-ol) |
| Dermal             | -                                | -                     | -                    | 343 mg/kg (ethanol)<br>888 mg/kg bw/day (propan-2-ol)                  |

Critical physical parameters: solubility, flammability, corrosivity: -

**Consumer**

| Route of exposure: | Acute effect local              | Acute effect systemic | Chronic effect local | Chronic effect systemic   |
|--------------------|---------------------------------|-----------------------|----------------------|---|
| Oral               | -                               | -                     | -                    | 87 mg/kg bw/day (ethanol)<br>26 mg/kg bw/day (propan-2-ol)            |
| Inhalation         | 950 mg/m <sup>3</sup> (ethanol) | -                     | -                    | 114 mg/m <sup>3</sup> (ethanol)<br>89 mg/m <sup>3</sup> (propan-2-ol) |
| Dermal             | -                               | -                     | -                    | 206 mg/kg (ethanol)<br>319 mg/kg (propan-2-ol)                        |

**PNEC**

| Environmental protection target    | PNEC                     |
|------------------------------------|--------------------------|
| Fresh water                        | 0.96 mg/l (ethanol)      |
| Freshwater sediments               | 3.6 mg/kg (ethanol)      |
| Marine water                       | 0.79 mg/l (ethanol)      |
| Marine sediments                   | no information available |
| Food chain                         | no information available |
| Microorganisms in sewage treatment | no information available |
| Soil (agricultural)                | 0.63 mg/kg (ethanol)     |
| Air                                | no information available |

**8.2 Exposure controls**

8.2.1. Appropriate engineering controls

|               |                                     |                |                  |          |   |
|---------------|-------------------------------------|----------------|------------------|----------|---|
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|               |  |   |
|---------------|--|---|
|               | Substance/mixture related measures to prevent exposure during identified uses: | Use the product in well ventilated rooms. Use personal protective equipment. Do not eat, drink or smoke in the workspace.   |
|               | Structural measures to prevent exposure:                                       | In accordance with Section 7.   |
|               | Organizational measures to prevent exposure:                                   | Organization of work in order to reduce other worker's influence during work process.   |
|               | Technical measures to prevent exposure:  | Secure proper workspace ventilation in order to keep concentration levels in air below permitted levels. Secure stations for rinsing eyes and showering.  |
| <b>8.2.2.</b> | <b>Personal protection equipment</b>   |   |
| 8.2.2.1.      | Eye and face protection:   | Safety glasses that stick to face (EN 166) or visor in case of lower levels of concentration in air; protective gas mask that covers the entire face in case of higher levels of concentration in air.  |
| 8.2.2.2.      | Skin protection  |   |
|               | Hand protection:   | <p>The protective gloves have to satisfy the specification of Regulation (EU) 2016/425 and the related standard EN 374.</p> <p>Full contact:</p> <ul style="list-style-type: none"> <li>Glove material: butyl rubber</li> <li>Glove thickness: <math>\geq 0.50</math> mm</li> <li>Time until perforation: <math>&gt; 480</math> min</li> </ul> <p>Splash contact:</p> <ul style="list-style-type: none"> <li>Glove material: nitrile rubber</li> <li>Glove thickness: 0.4 mm</li> <li>Break through time: 35 min</li> </ul> |
|               | Other skin protection:   | During everyday work use antistatic clothing (EN 13688) and suitable footwear, such as rubber boots (EN 20345) or shoes that cover the entire foot. In case of spilling hazard, use clothing made of impermeable material suitable for protection from liquid chemicals (Viton, PVC, himex) and footwear made from the same material.   |
| 8.2.2.3.      | Respiratory protection:  | If the concentration level exceeds the GVI values (or because of inadequate ventilation), use a filter for organic vapors, type "A" (boiling point $> 65^{\circ}\text{C}$ ) according to EN 14387.  |
| 8.2.2.4.      | Thermal hazards:   | No information available  |
| <b>8.2.3.</b> | <b>Environmental exposure controls</b>   |   |
|               | Substance/mixture related measures to prevent exposure:                        | See Section 6   |
|               | Structural measures to prevent exposure:                                       | Use modern equipment.   |

|               |                                     |                |                  |
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|  |   |
|--|---|
| Organisational measures to prevent exposure: | Adapt the work process to the required working conditions of the workplace. |
| Technical measures to prevent exposure:      | See Section 6   |

**SECTION 9. Physical and chemical properties**

| 9.1   | Information on basic physical and chemical properties |                          |  |
|---|---|--------------------------|--|
|   | Value   | Method                   |  |
| Physical state:   | liquid  | No information available |  |
| Colour:   | colourless  | No information available |  |
| Odour/odour threshold:                                    | ethanol like/no information available                 | No information available |  |
| Melting point / freezing point:                           | No information available                              | No information available |  |
| Boiling point or initial boiling point and boiling range: | No information available                              | No information available |  |
| Flammability:   | No information available                              | No information available |  |
| Lower and upper explosion limit:                          | No information available                              | No information available |  |
| Flash point:  | 25 °C   | No information available |  |
| Auto-ignition temperature:                                | No information available                              | No information available |  |
| Decomposition temperature:                                | No information available                              | No information available |  |
| pH:   | No information available                              | No information available |  |
| Kinematic viscosity:                                      | No information available                              | No information available |  |
| Solubility:   | No information available                              | No information available |  |
| Partition coefficient n-octanol/water (log value):        | No information available                              | No information available |  |
| Vapour pressure:  | No information available                              | No information available |  |
| Density and/or relative density                           | No information available                              | No information available |  |
| Relative vapour density:                                  | No information available                              | No information available |  |
| Particle characteristics:                                 | No information available                              | No information available |  |
| 9.2   | Other information                                     |                          |  |
|   | -   |                          |  |

**SECTION 10. Stability and reactivity**

|      |                                     |   |
|------|-------------------------------------|---|
| 10.1 | Reactivity:                         | See subsections 10.3 through 10.5.  |
| 10.2 | Chemical stability:                 | The product is chemically stable under standard ambient conditions of storing and using (room temperature). |
| 10.3 | Possibility of hazardous reactions: | No dangerous reactions known.   |

|               |                                     |                |                  |          |   |
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|      |                                   |   |
|------|-----------------------------------|---|
| 10.4 | Conditions to avoid:              | Avoid heat, sparks, open flames and other ignition sources. |
| 10.5 | Incompatible materials:           | Acids, bases, oxidants.                                     |
| 10.6 | Hazardous decomposition products: | Carbon monoxide and carbon dioxide.                         |

**SECTION 11. Toxicological information**

**11.1 Information on toxicological effects**

**Acute toxicity:**

| Route of exposure: | Method | Species | Dose LD <sub>50</sub> /LC <sub>50</sub> or ATE <sub>mix</sub> | Exposure time | Results  |
|--------------------|--------|---------|---|---------------|--|
| Oral:              | -      | rat     | LD <sub>50</sub>  | -             | 7.060 mg/kg (ethanol)<br>5.840 mg/kg (2-propanol)    |
| Dermal:            | -      | rabbit  | LD <sub>50</sub>  | -             | >20.000 mg/kg (ethanol)<br>12.800 mg/kg (2-propanol) |
| Inhalation:        | -      | rat     | LC <sub>50</sub>  | 4 h           | >8.000 mg/l (ethanol)<br>37.5 mg/l (2-propanol)      |

**Specific target organ toxicity – single exposure (STOT SE):**

|             | Specific effects         | Target organ             | Note                              |
|-------------|--------------------------|--------------------------|-----------------------------------|
| Oral:       | No information available | No information available | -                                 |
| Dermal:     | No information available | No information available | -                                 |
| Inhalation: | No information available | No information available | may cause drowsiness or dizziness |

**Aspiration hazard:** No information available.

**Irritation and corrosion**

|                               | Exposure time | Species | Evaluation | Method | Note                          |
|-------------------------------|---------------|---------|------------|--------|-------------------------------|
| Skin corrosion/irritation:    | -             | -       | -          | -      | -                             |
| Serious eye damage/irritation | -             | rabbit  | -          | -      | causes serious eye irritation |

|               |                                     |                |                  |          |   |
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|                            |                           |
|----------------------------|---------------------------|
| Sensitization              |                           |
| Skin sensitization:        | No information available. |
| Respiratory sensitization: | No information available. |

|  |                           |
|--|---------------------------|
| Symptoms related to the physical, chemical and toxicological characteristics |                           |
| Oral exposure:   | No information available. |
| Dermal exposure:   | No information available. |
| Inhalation exposure:   | No information available. |
| Eye exposure:  | No information available. |

|  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|
| Repeated dose toxicity (subacute, subchronic, chronic) |  |  |  |  |  |  |
|--|--|--|--|--|--|--|

|                       | Dose                     | Exposure time            | Species                  | Method                   | Evaluation               | Note |
|-----------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|------|
| Subacute oral         | No information available | No information available | No information available | No information available | No information available | -    |
| Subacute dermal       | No information available | No information available | No information available | No information available | No information available | -    |
| Subacute inhalation   | No information available | No information available | No information available | No information available | No information available | -    |
| Subchronic oral       | No information available | No information available | No information available | No information available | No information available | -    |
| Subchronic dermal     | No information available | No information available | No information available | No information available | No information available | -    |
| Subchronic inhalation | No information available | No information available | No information available | No information available | No information available | -    |
| Chronic oral          | No information available | No information available | No information available | No information available | No information available | -    |
| Chronic dermal        | No information available | No information available | No information available | No information available | No information available | -    |

|               |                                     |                |                  |          |   |
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|                    |                          |                          |                          |                          |                          |   |
|--------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---|
| Chronic inhalation | No information available | No information available | No information available | No information available | No information available | - |
|--------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---|

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|   |  |  |  |  |  |  |
|---|--|--|--|--|--|--|
| Specific target organ toxicity – repeated exposure (STOT RE): |  |  |  |  |  |  |
|---|--|--|--|--|--|--|

|                       | Specific effects         | Target organ             | Note |
|-----------------------|--------------------------|--------------------------|------|
| Subacute oral         | No information available | No information available | -    |
| Subacute dermal       | No information available | No information available | -    |
| Subacute inhalation   | No information available | No information available | -    |
| Subchronic oral       | No information available | No information available | -    |
| Subchronic dermal     | No information available | No information available | -    |
| Subchronic inhalation | No information available | No information available | -    |
| Chronic oral          | No information available | No information available | -    |
| Chronic dermal        | No information available | No information available | -    |
| Chronic inhalation    | No information available | No information available | -    |

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|--|--|--|--|--|--|--|
| CMR effects (carcinogenicity; mutagenicity; reproductive toxicity) |  |  |  |  |  |  |
|--|--|--|--|--|--|--|

|  |                                |   |  |  |  |
|--|--------------------------------|---|--|--|--|
|  | Carcinogenicity:               | Based on available data, the classification criteria are not met. |  |  |  |
|  | Mutagenicity <i>in vitro</i> : | Based on available data, the classification criteria are not met. |  |  |  |
|  | Genotoxicity:                  | Based on available data, the classification criteria are not met. |  |  |  |
|  | Mutagenicity <i>in vivo</i> :  | Based on available data, the classification criteria are not met. |  |  |  |
|  | Germ cell mutagenicity:        | Based on available data, the classification criteria are not met. |  |  |  |
|  | Reproductive toxicity:         | Based on available data, the classification criteria are not met. |  |  |  |

|  |  |   |  |  |  |
|--|--|---|--|--|--|
|  | Summary of evaluation of the CMR properties: | Based on available data, the classification criteria are not met. |  |  |  |
|--|--|---|--|--|--|

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|             |                                      |  |  |  |  |  |
|-------------|--------------------------------------|--|--|--|--|--|
| <b>11.2</b> | <b>Information on other hazards:</b> |  |  |  |  |  |
|-------------|--------------------------------------|--|--|--|--|--|

|                |   |  |  |  |  |  |
|----------------|---|--|--|--|--|--|
| <b>11.2.1.</b> | <b>Endocrine disrupting properties:</b> |  |  |  |  |  |
|----------------|---|--|--|--|--|--|

|  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|
|  | No known endocrine disrupting properties that affect human health. |  |  |  |  |  |
|--|--|--|--|--|--|--|

|                |                            |  |  |  |  |  |
|----------------|----------------------------|--|--|--|--|--|
| <b>11.2.2.</b> | <b>Other informations:</b> |  |  |  |  |  |
|----------------|----------------------------|--|--|--|--|--|

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|--|---|--|--|--|--|--|
|  | - |  |  |  |  |  |
|--|---|--|--|--|--|--|

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|---|--|--|--|--|--|--|
| <b>SECTION 12. Ecological information</b> |  |  |  |  |  |  |
|---|--|--|--|--|--|--|

|             |                 |  |  |  |  |  |
|-------------|-----------------|--|--|--|--|--|
| <b>12.1</b> | <b>Toxicity</b> |  |  |  |  |  |
|-------------|-----------------|--|--|--|--|--|

|               |                                     |                |                  |          |   |
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| Acute (short-term) toxicity | Dose             | Exposure time | Species             | Method                   | Evaluation                                       | Note |
|-----------------------------|------------------|---------------|---------------------|--------------------------|--|------|
| Fish                        | LC <sub>50</sub> | 96 hours      | Pimephales promelas | No information available | 8.140 mg/l (ethanol)<br>9.640 mg/l (2-propanol)  | -    |
| Crustacea:                  | EC <sub>50</sub> | 48 hours      | Daphnia magna       | No information available | 7.800 mg/l (ethanol)<br>13.299 mg/l (2-propanol) | -    |
| Algae/aquatic plants        | IC <sub>50</sub> | 4 days        | algae               | No information available | 5.000 mg/l (ethanol)<br>>1,000 mg/l (2-propanol) | -    |
| Other organisms             | -                | -             | -                   | -                        | -  | -    |

| Chronic (long-term) toxicity | Dose             | Exposure time | Species                  | Method                   | Evaluation               | Note |
|------------------------------|------------------|---------------|--------------------------|--------------------------|--------------------------|------|
| Fish                         | LC <sub>50</sub> | 96 hours      | No information available | No information available | No information available | -    |
| Crustacea:                   | EC <sub>50</sub> | 48 hours      | No information available | No information available | No information available | -    |
| Algae/aquatic plants         | IC <sub>50</sub> | 72 hours      | No information available | No information available | No information available | -    |
| Other organisms              | -                | -             | -                        | -                        | -                        | -    |

**12.2 Persistence and degradability**

**Abiotic degradation**

|              | Degradation half-lives   | Method                   | Evaluation               | Note |
|--------------|--------------------------|--------------------------|--------------------------|------|
| Marine water | No information available | No information available | No information available | -    |
| Fresh water  | No information available | No information available | No information available | -    |
| Air          | No information available | No information available | No information available | -    |
| Soil         | No information available | No information available | No information available | -    |

|               |                                     |                |                  |            |
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| Biodegradation |             |        |                          |      |
|----------------|-------------|--------|--------------------------|------|
| % Degradation  | Time (days) | Method | Evaluation               | Note |
| -              | -           | -      | No information available | -    |
|                |             |        |                          |      |
|                |             |        |                          |      |

**12.3 Bioaccumulative potential**

| Octanol-water partition coefficient (log Kow) |               |    |    |        |            |      |
|---|---------------|----|----|--------|------------|------|
| Value   | Concentration | pH | °C | Method | Evaluation | Note |
| -   | -             | -  | -  | -      | -          | -    |
|   |               |    |    |        |            |      |
|   |               |    |    |        |            |      |

**Bioconcentration factor (BCF)**

| Value                    | Species                  | Method                   | Evaluation               | Note |
|--------------------------|--------------------------|--------------------------|--------------------------|------|
| No information available | No information available | No information available | No information available | -    |
|                          |                          |                          |                          |      |
|                          |                          |                          |                          |      |

**Chronic ecotoxicity**

| Value  | Dose             | Exposure time            | Species                  | Method                   | Evaluation               | Note |
|--|------------------|--------------------------|--------------------------|--------------------------|--------------------------|------|
| Chronic toxicity on fish                         | LC <sub>50</sub> | No information available | No information available | No information available | No information available | -    |
| Chronic toxicity on crustacea ( <i>Daphnia</i> ) | EC <sub>50</sub> | No information available | No information available | No information available | No information available | -    |
|  |                  |                          |                          |                          |                          |      |

**12.4 Mobility in soil**

| Known or predicted distribution in environmental compartments: |    |               |        |      |
|--|----|---------------|--------|------|
| No information available                                       |    |               |        |      |
| Surface tension:   |    |               |        |      |
| Value  | °C | Concentration | Method | Note |

|               |                                     |                |                  |          |   |
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|                          |                          |                          |                          |   |
|--------------------------|--------------------------|--------------------------|--------------------------|---|
| No information available | No information available | No information available | No information available | - |
|--------------------------|--------------------------|--------------------------|--------------------------|---|

| Adsorption / desorption |                                  |                       |                          |                          |                          |      |
|-------------------------|----------------------------------|-----------------------|--------------------------|--------------------------|--------------------------|------|
| Transport               | A/D coefficient Henry's constant |                       | log Kow                  | Evaporation rate         | Method                   | Note |
| Soil-water              | No information available         | information available | No information available | No information available | No information available | -    |
| Water-air               | No information available         | information available | No information available | No information available | No information available | -    |
| Soil-air                | No information available         | information available | No information available | No information available | No information available | -    |

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

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**12.6. Endocrine disrupting properties**

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**12.7. Other adverse effects**

No further relevant information available.

**SECTION 13. Disposal considerations**

**13.1 Waste treatment methods**

**13.1.1. Product/Packaging disposal:**

Submit for disposal to the legal person authorized by the Ministry of Environmental and Nature Protection.

|               |                                     |                |                  |            |
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|         |   |
|---------|---|
| 13.1.2. | Waste codes/waste designations according to Law:  |
|         | Packaging that contains residual hazardous substances or is contaminated with hazardous substances  |
| 13.1.3. | Waste treatment – relevant information:   |
|         | No information available  |
| 13.1.4. | Sewage disposal – relevant information:   |
|         | Waste must not be disposed of into the sewage system.   |
| 13.1.5. | Other disposal recommendations:   |
|         | Do not dispose of the product's remains into the sewage system. Submit the remains to the collectors authorized by the ministry in charge. Do not dispose of the packaging into the sewage system. Submit the packaging to the collectors authorized by the ministry in charge. |
| 13.1.6. | Relevant Community provisions:  |
|         | Disposal must be made according to official regulations.  |

**SECTION 14 TRANSPORT INFORMATION**

|                                     |   |
|-------------------------------------|---|
| Transporting/shipment by road (ADR) |   |
| UN number:                          | 1993  |
| UN proper shipping name:            | Flammable liquid, n.o.s. (ethanol, isopropanol) |
| Transport hazard class(es):         | 3   |
| Packing group:                      | II  |
| Environmentally hazardous:          | -   |
| Special precautions for user:       | -   |
| Transporting/shipment by rail (RID) |   |
| UN number:                          | 1993  |
| UN proper shipping name:            | Flammable liquid, n.o.s. (ethanol, isopropanol) |
| Transport hazard class(es):         | 3   |
| Packing group:                      | II  |
| Environmentally hazardous:          | -   |
| Special precautions for user:       | -   |
| Inland waterway transport (ADN)     |   |
| UN number:                          | 1993  |
| UN proper shipping name:            | Flammable liquid, n.o.s. (ethanol, isopropanol) |
| Transport hazard class(es):         | 3   |
| Packing group:                      | II  |

|               |                                     |                |                  |            |
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|   |   |
|---|---|
| Environmentally hazardous:  | -   |
| Special precautions for user:   | -   |
| Transporting/shipment by sea (IMDG)                                       |   |
| UN number:  | 1993  |
| UN proper shipping name:  | Flammable liquid, n.o.s. (ethanol, isopropanol) |
| Transport hazard class(es):   | 3   |
| Packing group:  | II  |
| Environmentally hazardous:  | -   |
| Special precautions for user:   | -   |
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code: | -   |
| Transporting/shipment by air (ICAO-TI/IATA-DGR)                           |   |
| UN number:  | 1993  |
| UN proper shipping name:  | Flammable liquid, n.o.s. (ethanol, isopropanol) |
| Transport hazard class(es):   | 3   |
| Packing group:  | II  |
| Environmentally hazardous:  | -   |
| Special precautions for user:   | -   |
| Further information:  | -   |

| <b>SECTION 15. Regulatory information</b> |  |
|---|--|
| 15.1                                      | Safety, health and environmental regulations/legislation specific for the substance or mixture |
|   | EU regulations   |
|   | Authorization and/or restrictions of use   |
|   | Authorizations: -  |
|   | Restrictions: -  |

|               |                                     |                |                  |          |   |
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|      |  |  |
|------|--|--|
|      | Other EU regulations:  | <p>Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC;</p> <p>Directive 2004/42/CE of the European Parliament and of the Council of 21 April 2004 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC;</p> <p>Council Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work;</p> <p>Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006;</p> <p>REACH Restrictions on the manufacturing, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII);</p> |
|      | Information according 1999/13/EC about limitation of emissions of volatile organic compounds (VOC-guideline) |  |
|      | National legislation:  | <p>Chemicals Act, Regulation on classification, packaging and labeling of dangerous substances, Ordinance on occupational exposure limit values and on biological limit values, Regulation on categories, types and classification of waste with a waste catalog and list of hazardous waste, Ordinance on writing Material safety data sheet, Transport of Hazardous Substances Act</p>   |
| 15.2 | Chemical safety assessment   |  |
|      | None   |  |

| <b>SECTION 16. Other information</b> |   |   |
|--------------------------------------|---|---|
| 16.1                                 | Indication of changes:                        | -   |
| 16.2                                 | Abbreviations and acronyms:                   | <p>ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)</p> <p>IMDG: International Maritime Code for Dangerous Goods</p> <p>IATA: International Air Transport Association</p> <p>GHS: Globally Harmonised System of Classification and Labelling of Chemicals</p> <p>EINECS: European Inventory of Existing Commercial Chemical Substances</p> <p>CAS: Chemical Abstracts Service (division of the American Chemical Society)</p> <p>DNEL: Derived No-Effect Level (UK REACH)</p> <p>LC50: Lethal concentration, 50 percent</p> <p>LD50: Lethal dose, 50 percent</p> <p>PBT: Persistent, Bioaccumulative and Toxic</p> <p>vPvB: very Persistent and very Bioaccumulative</p> |
| 16.3.                                | Key literature references and source of data: | Manufacturer's MSDS file.   |

|               |                                     |                |                  |          |   |
|---------------|-------------------------------------|----------------|------------------|----------|---|
| Trading name: | <b>SODIUM TETRABORATE, SOLUTION</b> |                |                  |          |   |
| Product code: | NTB-OT-X**                          | Revision date: | 14 November 2022 | Version: | 7 |

|       |   |                            |   |
|-------|---|----------------------------|---|
| 16.4. | Classification and procedure used to derive the classification for mixture according to Regulation (EC) 1272/2008 (CLP) |                            |   |
|       | Classification  | Classification procedure   |   |
|       | -   | -                          |   |
| 16.5. | Relevant H statements (number and full text)  |                            |   |
|       | H:  | 225<br>319<br>336<br>360FD | Highly flammable liquid and vapor.<br>Causes serious eye irritation.<br>May cause drowsiness or dizziness.<br>May damage fertility. May damage the unborn child.  |
| 16.6. | Training advice:  |                            | -   |
| 16.7. | Further information:  |                            | ** "X" in the product code marks different volumes (different packagings of the product)<br>We are not responsible for consequences in case of failure to comply with instructions for use or improper use of the product described in this material safety data sheet. |

|   |  |
|---|--|
| <b>ANNEX: Exposure scenario resulting to chemical safety assessment</b> |  |
| -   |  |

|               |                                      |                      |             |
|---------------|--------------------------------------|----------------------|-------------|
| Trading name: | <b>PERIODIC ACID, 0.8 % SOLUTION</b> |                      |             |
| Product code: | PK08-OT-X**                          | Date of compilation: | 21 Dec 2022 |
|               |                                      | Version:             | 4           |

| <b>SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING</b> |   |   |
|---|---|---|
| 1.1.  | Product identifier  |   |
|   | Trading name:   | PERIODIC ACID, 0.8 % SOLUTION   |
|   | Chemical name:  | -   |
|   | Catalogue number:   | PK08-OT-X**   |
| 1.2.  | Relevant identified uses of the substance or mixture and uses advised against |   |
|   | Uses:   | For use with special staining kits.   |
|   | Uses advised against:   | Only the identified uses are advised.   |
|   | Reason why uses advised against:  | The product is intended for use only as an <i>in vitro</i> diagnostic medical device, registered at the Agency for Medicinal Products and Medical Devices and there is no reason to use it for other purposes |
| 1.3.  | Details of the supplier of the safety data sheet                              |   |
|   | Supplier:   | BioGnost Ltd.   |
|   | Address:  | Medjugorska 59, Zagreb  |
|   | Telephone number:   | +385 1 2409997  |
|   | Fax no.:  | +385 1 2404039  |
|   | e-mail of competent person:   | <a href="mailto:msds@biognost.hr">msds@biognost.hr</a>  |
|   | National contact:   | -   |
| 1.4.  | Emergency telephone number  |   |
|   | National Protection and Rescue Directorate:                                   | 112   |
|   | Medical information:  | +385 1 2348 342   |
|   | Other information:  | -   |

| <b>SECTION 2 HAZARDS INFORMATION</b>                               |   |                               |
|--|---|-------------------------------|
| 2.1.   | Classification of the substance or mixture                  |                               |
| 2.1.1.   | Classification (REGULATION (EC) No. 1272/2008 (CLP))        |                               |
|  | Hazard class and category code:                             | Hazard statements*:           |
|  | Not identified as hazardous substance.                      | -                             |
| 2.1.2.   | Additional information                                      |                               |
|  | -   |                               |
| *For full text of Hazard- and EU Hazard-statements: see Section 16 |   |                               |
| 2.2.   | Classification according to EC Directive Nr. 1272/2008 CLP) |                               |
|  | Product identification:                                     | PERIODIC ACID, 0.8 % SOLUTION |
|  | Identification number:                                      | -                             |
|  | Authorization no.:  | -                             |
|  | Hazard pictograms:  | -                             |

|               |                                      |                      |             |          |   |
|---------------|--------------------------------------|----------------------|-------------|----------|---|
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|                           |   |
|---------------------------|---|
| Signal word:              | - |
| Hazard statements:        | - |
| Precautionary statements: | - |
| Further information:      | - |

|      |   |
|------|---|
| 2.3. | Other hazards   |
|      | <p><b>Endocrine Disrupting Properties:</b><br/>         No known endocrine disrupting properties</p> <p><b>Results of PBT and vPvB assessment:</b> According to the results of its assessment, this substance is not a PBT or a vPvB.</p> |

**SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS**

| CAS/<br>EC/<br>Index no. | REACH<br>Registration No | Weight % content<br>(or range) | Identification<br>name | Classification according to Regulation<br>(EC) No 1272/2008 (CLP) |
|--------------------------|--------------------------|--------------------------------|------------------------|---|
| -                        | -                        | -                              | -                      | -   |

**SECTION 4 FIRST AID MEASURES**

|      |   |
|------|---|
| 4.1. | Description of first aid measures   |
|      | <p>General notes:</p> <p>Following inhalation:</p> <p>Following skin contact:</p> <p>Following eye contact:</p> <p>Following ingestion:</p> <p>Self-protection of the first aider:</p>  |
|      | <p>-</p> <p>Carry the afflicted person out of the contaminated area into a well-ventilated area or out for fresh air. If breathing becomes erratic or it stops, immediately apply artificial respiration (other than mouth-to-mouth) and contact a physician.</p> <p>Remove contaminated clothing. Immediately wash with plenty of water and soap. Seek medical assistance if the symptoms of irritation remain.</p> <p>Rinse out with plenty of water with the eyelid held wide open using clean fingers. If the symptoms remain, immediately call a physician.</p> <p>Do not induce vomiting. Make the afflicted person drink a glass of water. If spontaneous vomiting occurs, wash the mouth with water, then make the person drink 100-200 ml of water and seek medical attention.</p> <p>Treat symptomatically.</p> |
| 4.2. | Most important symptoms and effects, both acute and delayed   |
|      | <p>Following inhalation:</p> <p>Following skin contact:</p>   |
|      | <p>Inhalation of large amounts of vapors in inadequately ventilated perimeter may cause coughing, sneezing, headache and nausea.</p> <p>Slight irritation. After short exposure, resorption effects are not likely. Long-term exposure may cause drying, cracking and tingling sensation of skin.</p>   |

|               |                                      |                      |             |
|---------------|--------------------------------------|----------------------|-------------|
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|      |  |  |
|------|--|--|
|      | Following eye contact:   | Direct eye contact may cause slight to moderate irritation, lacrimation and burning sensation.   |
|      | Following ingestion:   | Swallowing may cause irritation of mucosa, tingling sensation in the mouth, burning sensation; higher levels of concentration may cause nausea, abdominal pain and vomiting. In case of vomiting, aspiration causes coughing, difficult breathing. Higher levels of concentration may cause suffocation. |
| 4.3. | Indication of any immediate medical attention and special treatment needed |  |
|      | -  |  |

|  |   |   |
|--|---|---|
| <b>SECTION 5 FIREFIGHTING MEASURES</b> |   |   |
| 5.1.                                   | Extinguishing media   |   |
|  | Suitable extinguishing media:   | Small fire - water spray, dry powder, CO <sub>2</sub><br>Large fire - water spray or alcohol-resistant foam |
|  | Unsuitable extinguishing media:   | water jet   |
| 5.2.                                   | Special hazards arising from the substance or mixture   |   |
|  | Hazardous combustion products:  | No information available  |
| 5.3.                                   | Advice for firefighters   |   |
|  | Use a self-contained open-circuit compressed air breathing apparatus and fireproof clothing.<br>Cool closed containers exposed to fire with water spray or vapor. |   |
| 5.4.                                   | Additional information  |   |
|  | Remove sources of heat and ignition.<br>Do not contaminate the environment with extinguishing media.  |   |

|  |   |  |
|--|---|--|
| <b>SECTION 6 ACCIDENTAL RELEASE MEASURES</b> |   |  |
| 6.1.   | Personal precautions, protective equipment and emergency procedures   |  |
| 6.1.1.                                       | For non-emergency personnel   |  |
|  | Protective equipment:   | Use personal protective equipment (see Section 8).   |
|  | Accident prevention methods:  | Evacuate members of all non-essential personnel and those members without protective equipment. Remove all sources of sparks and ignition. Do not smoke. |
|  | Emergency procedures:   | Mark the area using proper signs.  |
| 6.1.2.                                       | For emergency responders:   |  |
|  | Wear protective equipment (see Section 8).  |  |
| 6.2.   | Environmental precautions:  |  |
|  | Do not dispose of in sewage, drainage system and waterways. In case of large spillage contact National Protection and Rescue Directorate (NPRD) on 112. |  |
| 6.3.   | Methods and material for containment and cleaning up  |  |

|               |                                      |                      |             |          |   |
|---------------|--------------------------------------|----------------------|-------------|----------|---|
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|        |  |   |
|--------|--|---|
| 6.3.1. | Bunding, covering of drains; capping procedures: | Sand or clay barriers.  |
| 6.3.2. | Cleaning up:                                     | Where possible, the substance can be absorbed by using inflammable material (sand, diatomaceous earth, vermiculite). Place the waste material in tightly closed impermeable containers. Store the substance in well ventilated storage rooms until disposal. Submit for disposal to the legal persons authorized by the Ministry of Environmental and Nature Protection. After disposal of the products, wash the area and involved materials with water. |
| 6.3.3. | Other information:                               | -   |
| 6.4.   | Reference to other sections                      |   |
|        | -  |   |

**SECTION 7 HANDLING AND STORAGE**

|        |  |   |
|--------|--|---|
| 7.1.   | Precautions for safe handling  |   |
| 7.1.1. | Protection measures  |   |
|        | Measures to prevent fire:  | Keep away from sources of heat and ignition. Do not smoke.  |
|        | Measures to prevent aerosol and dust generation:   | Secure proper ventilation.  |
|        | Measures to protect the environment:   | Prevent spilling into the sewage system and waterways.  |
|        | Other measures:  | -   |
| 7.1.2. | Advice on general occupational hygiene:  |   |
|        | Do not eat, drink or smoke in the workspace. Thoroughly wash hands after work and before eating. |   |
| 7.2.   | Conditions for safe storage, including any incompatibilities                                     |   |
|        | Technical measures and storage conditions:   | Keep in tightly closed and upright set containers in a well ventilated storage rooms, and away from sources of heat, sunlight, and other incompatible substances.           |
|        | Packaging materials:   | Manufacturer's original packaging.  |
|        | Requirements for storage rooms and vessels:  | Keep away from food and drink. Keep the containers tightly closed.  |
|        | Advices for storage equipment:   | The storage must be made of hard material; floors must be resistant to chemicals. There must be no drain that directly leads into sewage system. Secure proper ventilation. |
|        | Further information on storage conditions:   | Do not place the unused material in the storage room and do not use empty containers for storing other chemicals. Do not store with incompatible materials (see Section 9). |
| 7.3.   | Specific end use(s)  |   |

|               |                                      |                      |             |          |   |
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|                                       |   |
|---------------------------------------|---|
| Recommendations:                      | - |
| Industrial sector specific solutions: | - |

**SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1. Control parameters**

| Substance | CAS No | Occupational exposure limit values/short term values |                   | Biological limit values  |
|-----------|--------|--|-------------------|--------------------------|
|           |        | ppm  | mg/m <sup>3</sup> |                          |
| -         | -      | -  | -                 | No information available |

|                 |   |         |   |  |
|-----------------|---|---------|---|--|
| Substance name: | - |         |   |  |
| EC No:          | - | CAS No: | - |  |

**DNEL**

**Industrial**

| Route of exposure: | Acute effect local | Acute effect systemic | Chronic effect local | Chronic effect systemic |
|--------------------|--------------------|-----------------------|----------------------|-------------------------|
| Oral               | -                  | -                     | -                    | -                       |
| Inhalation         | -                  | -                     | -                    | -                       |
| Dermal             | -                  | -                     | -                    | -                       |

Critical physical parameters: solubility, flammability, corrosivity: -

**Consumer**

| Route of exposure: | Acute effect local | Acute effect systemic | Chronic effect local | Chronic effect systemic |
|--------------------|--------------------|-----------------------|----------------------|-------------------------|
| Oral               | -                  | -                     | -                    | -                       |
| Inhalation         | -                  | -                     | -                    | -                       |
| Dermal             | -                  | -                     | -                    | -                       |

**PNEC**

| Environmental protection target    | PNEC                     |
|------------------------------------|--------------------------|
| Fresh water                        | No information available |
| Freshwater sediments               | No information available |
| Marine water                       | No information available |
| Marine sediments                   | No information available |
| Food chain                         | No information available |
| Microorganisms in sewage treatment | No information available |
| Soil (agricultural)                | No information available |

|               |                                      |                      |             |
|---------------|--------------------------------------|----------------------|-------------|
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|  |  |  |
|--|--|--|
| Air  | No information available   |  |
| <b>8.2. Exposure controls</b>  |  |  |
| <b>8.2.1. Engineering measures</b>   |  |  |
| Substance/mixture related measures to prevent exposure during identified uses: | Use the product in well ventilated rooms. Use personal protective equipment. Do not eat, drink or smoke in the workspace.  |  |
| Structural measures to prevent exposure:                                       | No information available   |  |
| Organisational measures to prevent exposure:                                   | Organization of work in order to reduce other worker's influence during work process.  |  |
| Technical measures to prevent exposure:  | Secure proper workspace ventilation in order to keep concentration levels in air below permitted levels.   |  |
| <b>8.2.2. Personal protection equipment</b>                                    |  |  |
| 8.2.2.1. Eye and face protection:  | Safety glasses that stick to face (preventing splashing) (EN 166) or visor.  |  |
| <b>8.2.2.2. Skin protection</b>  |  |  |
| Hand protection:   | Protective gloves must be according to the EU Directive 2016/425/EEC and standard EN 374.<br>Glove material: nitrile rubber<br>Glove thickness: ≥0.50 mm<br>Break through time: >480 min             |  |
| Other skin protection:   | Wear antistatic clothing made of natural fibers (such as cotton) with long sleeves (EN 13034), and shoes that cover the entire foot (EN 10335).  |  |
| 8.2.2.3. Respiratory protection:   | Protective full face mask (EN 136) or half mask (EN 140) equipped with a filter for organic vapors, type "A" (boiling point >65°C) according to EN 14387) used when concentration levels exceed GVI. |  |
| 8.2.2.4. Thermal hazards:  | No information available   |  |
| <b>8.2.3. Environmental exposure controls</b>                                  |  |  |
| Substance/mixture related measures to prevent exposure:                        | See Section 6  |  |
| Structural measures to prevent exposure:                                       | Use modern equipment.  |  |
| Organisational measures to prevent exposure:                                   | Adapt the work process to the required working conditions of the workplace.  |  |
| Technical measures to prevent exposure:  | See Section 6  |  |

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

|               |                                      |                      |             |
|---------------|--------------------------------------|----------------------|-------------|
| Trading name: | <b>PERIODIC ACID, 0.8 % SOLUTION</b> |                      |             |
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| 9.1. Information on basic physical and chemical properties |   |                                  |                          |
|--|---|----------------------------------|--------------------------|
|  |   | Value                            | Method                   |
|  | Physical state:   | liquid                           | No information available |
|  | Colour:   | colourless                       | No information available |
|  | Odour/odour threshold:                                    | no odor/no information available | No information available |
|  | Melting point / freezing point:                           | No information available         | No information available |
|  | Boiling point or initial boiling point and boiling range: | No information available         | No information available |
|  | Flammability:   | No information available         | No information available |
|  | Lower and upper explosion limit:                          | No information available         | No information available |
|  | Flash point:  | No information available         | No information available |
|  | Auto-ignition temperature:                                | No information available         | No information available |
|  | Decomposition temperature:                                | No information available         | No information available |
|  | pH:   | No information available         | No information available |
|  | Kinematic viscosity:                                      | No information available         | No information available |
|  | Solubility:   | No information available         | No information available |
|  | Partition coefficient n-octanol/water (log value):        | No information available         | No information available |
|  | Vapour pressure:  | No information available         | No information available |
|  | Density and/or relative density:                          | No information available         | No information available |
|  | Relative vapour density:                                  | No information available         | No information available |
|  | Particle characteristics:                                 | No information available         | No information available |
| 9.2. Other information                                     |   |                                  |                          |
|  |   | -                                |                          |

| SECTION 10 STABILITY AND REACTIVITY |                                     |  |
|-------------------------------------|-------------------------------------|--|
| 10.1.                               | Reactivity:                         | See subsections 10.3 through 10.5.   |
| 10.2.                               | Chemical stability:                 | The product is chemically stable under standard ambient conditions of storing and using. |
| 10.3.                               | Possibility of hazardous reactions: | With strong oxidants, sodium-hydroxide, sulfuric acid, aluminum.                         |
| 10.4.                               | Conditions to avoid:                | Sources of heat, sparks, and ignition.   |
| 10.5.                               | Incompatible materials:             | Aluminum.  |
| 10.6.                               | Hazardous decomposition products:   | No information available.  |

| SECTION 11 TOXICOLOGICAL INFORMATION |
|--------------------------------------|
|--------------------------------------|

|               |                                      |                      |             |            |
|---------------|--------------------------------------|----------------------|-------------|------------|
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| 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008 |  |         |   |               |         |
|--|--|---------|---|---------------|---------|
| Acute toxicity:  |  |         |   |               |         |
| Route of exposure:   | Method   | Species | Effective dose<br>LD <sub>50</sub> /LC <sub>50</sub> or<br>ATE <sub>mixture</sub> | Exposure time | Results |
| Oral exposure:   | No information available   | -       | LD <sub>50</sub>  | -             | -       |
| Dermal exposure:   | No information available   | -       | LD <sub>50</sub>  | -             | -       |
| Inhalation exposure:   | No information available   | -       | LC <sub>50</sub>  | -             | -       |
| Specific target organ toxicity – single exposure (STOT SE):                    |  |         |   |               |         |
|  | Specific effects   |         | Target organ  |               | Note    |
| Oral exposure:   | No information available   |         | No information available  | -             |         |
| Dermal exposure:   | No information available   |         | No information available  | -             |         |
| Inhalation exposure:   | No information available   |         | No information available  | -             |         |
| Respiratory irritation:  |  |         |   |               |         |
|  | No information available   |         |   |               |         |
| Irritation and corrosion   |  |         |   |               |         |
|  | Exposure time  | Species | Evaluation  | Method        | Note    |
| Skin irritation:   | -  | rabbit  | -   | -             | -       |
| Eye irritation:  | -  | rabbit  | -   | -             | -       |
| Sensitization  |  |         |   |               |         |
| Dermal exposure:   | No information available   |         |   |               |         |
| Inhalation exposure:   | No information available   |         |   |               |         |
| Symptoms related to the physical, chemical and toxicological characteristics   |  |         |   |               |         |
| Oral exposure:   | Swallowing may cause irritation of mucosa, tingling sensation in the mouth, burning sensation; higher levels of concentration may cause nausea, abdominal pain and vomiting. In case of vomiting, aspiration causes coughing, difficult breathing. Higher levels of concentration may cause suffocation. |         |   |               |         |
| Dermal exposure:   | Slight irritation. After short exposure, resorption effects are not likely. Long-term exposure may cause drying, cracking and tingling sensation of skin.  |         |   |               |         |

|               |                                      |                      |             |
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|                      |   |
|----------------------|---|
| Inhalation exposure: | Inhalation of large amounts of vapors in inadequately ventilated perimeter may cause coughing, sneezing, headache and nausea. |
| Eye exposure:        | Direct eye contact may cause slight to moderate irritation, lacrimation and burning sensation.                                |

|  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|
| Repeated dose toxicity (subacute, subchronic, chronic) |  |  |  |  |  |  |
|--|--|--|--|--|--|--|

|                       | Dose                     | Exposure time            | Species                  | Method                   | Evaluation               | Note |
|-----------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|------|
| Subacute oral         | No information available | No information available | No information available | No information available | No information available | -    |
| Subacute dermal       | No information available | No information available | No information available | No information available | No information available | -    |
| Subacute inhalation   | No information available | No information available | No information available | No information available | No information available | -    |
| Subchronic oral       | No information available | No information available | No information available | No information available | No information available | -    |
| Subchronic dermal     | No information available | No information available | No information available | No information available | No information available | -    |
| Subchronic inhalation | No information available | No information available | No information available | No information available | No information available | -    |
| Chronic oral          | No information available | No information available | No information available | No information available | No information available | -    |
| Chronic dermal        | No information available | No information available | No information available | No information available | No information available | -    |
| Chronic inhalation    | No information available | No information available | No information available | No information available | No information available | -    |

|   |  |  |  |
|---|--|--|--|
| Specific target organ toxicity – repeated exposure (STOT RE): |  |  |  |
|---|--|--|--|

|                     | Specific effects         | Target organ             | Note |
|---------------------|--------------------------|--------------------------|------|
| Subacute oral       | No information available | No information available | -    |
| Subacute dermal     | No information available | No information available | -    |
| Subacute inhalation | No information available | No information available | -    |

|               |                                      |                      |             |
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|                       |                          |                          |   |
|-----------------------|--------------------------|--------------------------|---|
| Subchronic oral       | No information available | No information available | - |
| Subchronic dermal     | No information available | No information available | - |
| Subchronic inhalation | No information available | No information available | - |
| Chronic oral          | No information available | No information available | - |
| Chronic dermal        | No information available | No information available | - |
| Chronic inhalation    | No information available | No information available | - |

|  |   |
|--|---|
| CMR effects (carcinogenicity, mutagenicity, reproductive toxicity) |   |
| Carcinogenicity:   | Current studies on test animals did not indicate carcinogenic effects.    |
| Mutagenicity <i>in-vitro</i> :                                     | Current <i>in vitro</i> tests did not indicate mutagenic effects.         |
| Genotoxicity:  | No information available  |
| Mutagenicity <i>in-vivo</i> :                                      | Current <i>in vivo</i> tests did not indicate mutagenic effects.          |
| Germ cell mutagenicity:  | No information available  |
| Reproductive toxicity:   | No toxicity on reproductive organs was determined in reproductive organs. |
|  |   |
| Summary of evaluation of the CMR properties:                       | -   |

|         |   |
|---------|---|
| 11.2    | Information on other hazards:   |
| 11.2.1. | Endocrine disrupting properties:  |
|         | The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. |
| 11.2.2. | Other informations:   |
|         | -   |

|   |                  |               |                          |                          |            |      |
|---|------------------|---------------|--------------------------|--------------------------|------------|------|
| <b>SECTION 12 ECOLOGICAL INFORMATION:</b> |                  |               |                          |                          |            |      |
| 12.1. Toxicity                            |                  |               |                          |                          |            |      |
| Acute toxicity                            | Dose             | Exposure time | Species                  | Method                   | Evaluation | Note |
| Fish                                      | LC <sub>50</sub> | 96 hours      | No information available | No information available | -          | -    |

|               |                                      |                      |             |          |   |  |
|---------------|--------------------------------------|----------------------|-------------|----------|---|--|
| Trading name: | <b>PERIODIC ACID, 0.8 % SOLUTION</b> |                      |             |          |   |  |
| Product code: | PK08-OT-X**                          | Date of compilation: | 21 Dec 2022 | Version: | 4 |  |

|                         |                  |                      |                          |                          |                          |             |
|-------------------------|------------------|----------------------|--------------------------|--------------------------|--------------------------|-------------|
| Crustacea:              | EC <sub>50</sub> | 48 hours             | No information available | No information available | -                        | -           |
| Algae/aquatic plants    | IC <sub>50</sub> | 8 days               | No information available | No information available | -                        | -           |
| Microorganisms          | LC <sub>50</sub> | 72 hours             | -                        | -                        | -                        | -           |
| <b>Chronic toxicity</b> | <b>Dose</b>      | <b>Exposure time</b> | <b>Species</b>           | <b>Method</b>            | <b>Evaluation</b>        | <b>Note</b> |
| Fish                    | LC <sub>50</sub> | 96 hours             | No information available | No information available | No information available | -           |
| Crustacea:              | EC <sub>50</sub> | 48 hours             | No information available | No information available | No information available | -           |
| Algae/aquatic plants    | IC <sub>50</sub> | 72 hours             | No information available | No information available | No information available | -           |
| Other organisms         | -                | -                    | -                        | -                        | -                        | -           |

**12.2. Persistence and degradability**

**Abiotic degradation**

|              | Degradation half-lives   | Method                   | Evaluation               | Note |
|--------------|--------------------------|--------------------------|--------------------------|------|
| Marine water | No information available | No information available | No information available | -    |
| Fresh water  | No information available | No information available | No information available | -    |
| Air          | No information available | No information available | No information available | -    |
| Soil         | No information available | No information available | No information available | -    |

**Biodegradation**

| % Degradation            | Time (days)              | Method                   | Evaluation               | Note                     |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| No information available | No information available | No information available | No information available | No information available |
|                          |                          |                          |                          |                          |

**12.3. Bioaccumulative potential**

**Partition coefficient: n-octanol/water (log K<sub>ow</sub>):**

| Value | Concentration | pH | °C | Method | Evaluation | Note |
|-------|---------------|----|----|--------|------------|------|
|       |               |    |    |        |            |      |

|               |                                      |                      |             |          |   |
|---------------|--------------------------------------|----------------------|-------------|----------|---|
| Trading name: | <b>PERIODIC ACID, 0.8 % SOLUTION</b> |                      |             |          |   |
| Product code: | PK08-OT-X**                          | Date of compilation: | 21 Dec 2022 | Version: | 4 |

|   |                          |   |   |                          |                          |   |
|---|--------------------------|---|---|--------------------------|--------------------------|---|
| - | No information available | - | - | No information available | No information available | - |
|---|--------------------------|---|---|--------------------------|--------------------------|---|

Bioconcentration factor (BCF)

| Value                    | Species                  | Method                   | Evaluation               | Note                     |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| No information available | No information available | No information available | No information available | No information available |

Chronic ecotoxicity

| Value  | Dose             | Exposure time            | Species                  | Method                   | Evaluation               | Note |
|--|------------------|--------------------------|--------------------------|--------------------------|--------------------------|------|
| Chronic toxicity on fish                         | LC <sub>50</sub> | No information available | No information available | No information available | No information available | -    |
| Chronic toxicity on crustacea ( <i>Daphnia</i> ) | EC <sub>50</sub> | No information available | No information available | No information available | No information available | -    |

**12.4. Mobility in soil**

Known or predicted distribution in environmental compartments:

No information available

Surface tension:

| Value                    | °C                       | Concentration            | Method                   | Note |
|--------------------------|--------------------------|--------------------------|--------------------------|------|
| No information available | No information available | No information available | No information available | -    |

Adsorption / desorption

| Transport  | A/D coefficient Henry's constant | log Kow                  | Evaporation rate         | Method                   | Note |
|------------|----------------------------------|--------------------------|--------------------------|--------------------------|------|
| Soil-water | No information available         | No information available | No information available | No information available | -    |

|               |                                      |                      |             |          |   |
|---------------|--------------------------------------|----------------------|-------------|----------|---|
| Trading name: | <b>PERIODIC ACID, 0.8 % SOLUTION</b> |                      |             |          |   |
| Product code: | PK08-OT-X**                          | Date of compilation: | 21 Dec 2022 | Version: | 4 |

|           |                          |                          |                          |                          |   |
|-----------|--------------------------|--------------------------|--------------------------|--------------------------|---|
| Water-air | No information available | No information available | No information available | No information available | - |
| Soil-air  | No information available | No information available | No information available | No information available | - |

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

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**12.6. Endocrine disrupting properties**

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**12.7. Other adverse effects**

No information available

**SECTION 13 DISPOSAL CONSIDERATIONS**

**13.1. Waste treatment methods**

**13.1.1. Product/Packaging disposal:**

Submit for disposal to the legal person authorized by the Ministry of Environmental and Nature Protection.

**13.1.2. Waste codes/waste designations according to Law:**

No information available

**13.1.3. Waste treatment – relevant information:**

No information available

**13.1.4. Sewage disposal – relevant information:**

Waste must not be disposed of into the sewage system.

**13.1.5. Other disposal recommendations:**

|               |                                      |                      |             |
|---------------|--------------------------------------|----------------------|-------------|
| Trading name: | <b>PERIODIC ACID, 0.8 % SOLUTION</b> |                      |             |
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Do not dispose of the product's remains into the sewage system. Submit the remains to the collectors authorized by the ministry in charge. Do not dispose of the packaging into the sewage system. Submit the packaging to the collectors authorized by the ministry in charge. Do not dispose of in places where ignition may occur.

|         |                                |
|---------|--------------------------------|
| 13.1.6. | Relevant Community provisions: |
|         | -                              |

**SECTION 14 TRANSPORT INFORMATION**

Transporting/shipment by road (ADR)

|                               |                                       |
|-------------------------------|---------------------------------------|
| UN number:                    | Not subject to transport regulations. |
| UN proper shipping name:      | -                                     |
| Transport hazard class(es):   | -                                     |
| Packing group:                | -                                     |
| Environmentally hazardous:    | -                                     |
| Special precautions for user: | -                                     |

Transporting/shipment by rail (RID)

|                               |                                       |
|-------------------------------|---------------------------------------|
| UN number:                    | Not subject to transport regulations. |
| UN proper shipping name:      | -                                     |
| Transport hazard class(es):   | -                                     |
| Packing group:                | -                                     |
| Environmentally hazardous:    | -                                     |
| Special precautions for user: | -                                     |

Inland waterway transport (ADN)

|                               |                                       |
|-------------------------------|---------------------------------------|
| UN number:                    | Not subject to transport regulations. |
| UN proper shipping name:      | -                                     |
| Transport hazard class(es):   | -                                     |
| Packing group:                | -                                     |
| Environmentally hazardous:    | -                                     |
| Special precautions for user: | -                                     |

Transporting/shipment by sea (IMDG)

|                               |                                       |
|-------------------------------|---------------------------------------|
| UN number:                    | Not subject to transport regulations. |
| UN proper shipping name:      | -                                     |
| Transport hazard class(es):   | -                                     |
| Packing group:                | -                                     |
| Environmentally hazardous:    | -                                     |
| Special precautions for user: | -                                     |

|               |                                      |                      |             |
|---------------|--------------------------------------|----------------------|-------------|
| Trading name: | <b>PERIODIC ACID, 0.8 % SOLUTION</b> |                      |             |
| Product code: | PK08-OT-X**                          | Date of compilation: | 21 Dec 2022 |
|               |                                      | Version:             | 4           |

|   |                                       |
|---|---------------------------------------|
| Transporting/shipment by air (ICAO-TI/IATA-DGR) |                                       |
| UN number:                                      | Not subject to transport regulations. |
| UN proper shipping name:                        | -                                     |
| Transport hazard class(es):                     | -                                     |
| Packing group:                                  | -                                     |
| Environmentally hazardous:                      | -                                     |
| Special precautions for user:                   | -                                     |
| Further information: -                          |                                       |

| SECTION 15 REGULATORY INFORMATION |  |
|-----------------------------------|--|
| 15.1.                             | Safety, health and environmental regulations/legislation specific for the substance or mixture   |
|                                   | EU regulations   |
|                                   | Authorization and/or restrictions of use   |
|                                   | Authorizations: -  |
|                                   | Restrictions: -  |
|                                   | <p><b>Other EU regulations:</b></p> <p>Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC;</p> <p>Directive 2004/42/CE of the European Parliament and of the Council of 21 April 2004 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC;</p> <p>Council Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work;</p> <p>Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006;</p> <p>REACH Restrictions on the manufacturing, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII);</p> |
|                                   | Information according 1999/13/EC about limitation of emissions of volatile organic compounds (VOC-guideline)   |

|               |                                      |                      |             |
|---------------|--------------------------------------|----------------------|-------------|
| Trading name: | <b>PERIODIC ACID, 0.8 % SOLUTION</b> |                      |             |
| Product code: | PK08-OT-X**                          | Date of compilation: | 21 Dec 2022 |
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|                                  |   |
|----------------------------------|---|
| National legislation:            | Chemicals Act, Regulation on classification, packaging and labeling of dangerous substances, Ordinance on occupational exposure limit values and on biological limit values, Regulation on categories, types and classification of waste with a waste catalog and list of hazardous waste, Ordinance on writing Material safety data sheet, Transport of Hazardous Substances Act |
| 15.2. Chemical safety assessment |   |
|                                  | None  |

| <b>SECTION 16 Other information</b>   |  |
|---|--|
| 16.1. Indication of changes:  | -  |
| 16.2. Abbreviations and acronyms:   | ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)<br>IMDG: International Maritime Code for Dangerous Goods<br>IATA: International Air Transport Association<br>GHS: Globally Harmonised System of Classification and Labelling of Chemicals<br>EINECS: European Inventory of Existing Commercial Chemical Substances<br>CAS: Chemical Abstracts Service (division of the American Chemical Society)<br>DNEL: Derived No-Effect Level (UK REACH)<br>LC50: Lethal concentration, 50 percent<br>LD50: Lethal dose, 50 percent<br>PBT: Persistent, Bioaccumulative and Toxic<br>vPvB: very Persistent and very Bioaccumulative |
| 16.3. Key literature references and source of data:   | -  |
| 16.4. Classification and procedure used to derive the classification for mixture according to Regulation (EC) 1272/2008 (CLP) |  |
| Classification  | Classification procedure   |
| -   | -  |
| 16.5. Relevant H statements (number and full text)  |  |
| H: -  | -  |
| 16.6. Training advice:  | -  |
| 16.7. Further information:  | ** "X" in the product code marks different volumes (different packagings of the product)<br>We are not responsible for consequences in case of failure to comply with instructions for use or improper use of the product described in this material safety data sheet.  |

|  |
|--|
| <b>ANNEX:</b>  |
| <b>Exposure scenario resulting to Chemical safety assessment</b> |
| -  |

|               |                          |                      |               |          |   |
|---------------|--------------------------|----------------------|---------------|----------|---|
| Trading name: | <b>BIOSCHIFF REAGENT</b> |                      |               |          |   |
| Product code: | BS-OT-X**                | Date of compilation: | 31 March 2026 | Version: | 6 |

| <b>SECTION 1: Identification of the substance/mixture and of the company/undertaking</b> |   |  |
|--|---|--|
| 1.1  | Product identifier  |  |
|  | Trading name:   | BIOSCHIFF REAGENT  |
|  | Chemical name:  | -  |
|  | Catalogue number:   | BS-OT-X**  |
| 1.2  | Relevant identified uses of the substance or mixture and uses advised against |  |
|  | Uses:   | For detecting aldehydes and mucous substances.   |
|  | Uses advised against:   | Only the identified uses are advised.  |
|  | Reason why uses advised against:  | The product is intended for use only as an <i>in vitro</i> diagnostic medical device, registered at the Agency for Medicinal Products and Medical Devices and there is no reason to use it for other purposes. |
| 1.3  | Details of the supplier of the safety data sheet                              |  |
|  | Supplier:   | BioGnost Ltd.  |
|  | Address:  | Medjugorska 59, Zagreb   |
|  | Telephone number:   | +385 1 2409997   |
|  | Telefax.:   | +385 1 2404039   |
|  | e-mail of competent person:   | <a href="mailto:msds@biognost.hr">msds@biognost.hr</a>   |
|  | National contact:   | -  |
| 1.4  | Emergency telephone number  |  |
|  | National Protection and Rescue Directorate:                                   | 112  |
|  | Medical information:  | +385 1 2348 342  |
|  | Other information:  | -  |

| <b>SECTION 2. Hazards identification</b>                           |  |                     |
|--|--|---------------------|
| 2.1  | Classification of the substance or mixture                     |                     |
| 2.1.1  | Classification according to Regulation (EC) No 1272/2008 (CLP) |                     |
|  | Hazard class and category code:                                | Hazard statements*: |
|  | -  | EUH031              |
| 2.1.2.   | Additional information   |                     |
|  | -  |                     |
| *For full text of Hazard- and EU Hazard-statements: see SECTION 16 |  |                     |
| 2.2  | Label elements   |                     |
|  | Product identification:  | BIOSCHIFF REAGENT   |
|  | Identification number:   | -                   |
|  | Authorization number:  | -                   |
|  | Hazard pictograms:   | -                   |

|               |                          |                      |               |          |   |
|---------------|--------------------------|----------------------|---------------|----------|---|
| Trading name: | <b>BIOSCHIFF REAGENT</b> |                      |               |          |   |
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|                                       |   |
|---------------------------------------|---|
| Signal word:                          | -   |
| Hazard statements:                    | EUH031 Contact with acids liberates toxic gas.      |
| Precautionary statements:             | P281 Use personal protective equipment as required. |
| Supplemental hazard information (EU): | -   |

|   |                      |
|---|----------------------|
| 2.3   | <b>Other hazards</b> |
| <b>Endocrine Disrupting Properties:</b><br>No known endocrine disrupting properties   |                      |
| <b>Results of PBT and vPvB assessment:</b> According to the results of its assessment, this substance is not a PBT or a vPvB. |                      |

|  |  |  |  |  |
|--|--|--|--|--|
| <b>SECTION 3. Composition/information on ingredients</b> |  |  |  |  |
|--|--|--|--|--|

| CAS/<br>EC/<br>Index number              | REACH Registration<br>No  | Weight % content<br>(or range) | Identification name   | Classification<br>according to<br>Regulation (EC) No<br>1272/2008 (CLP) |
|--|---------------------------|--------------------------------|---|---|
| 7681-57-4/<br>231-673-0/<br>016-063-00-2 | 01-2119531326-45-<br>XXXX | 1 – 3 %                        | sodium metabisulfite  | Acute Tox. 4; H302<br>Eye Dam. 1; H318<br>EUH031                        |
| 7647-01-0/<br>231-595-7/<br>017-002-01-X | 01-2119484862-27-<br>XXXX | 0.7 – 1 %                      | hydrochloric acid, 36.5%  | Skin Corr. 1B; H314<br>Acute Tox. 3; H331                               |
| 569-61-9/<br>209-321-2/<br>611-031-00-X  | -                         | < 0.1 %                        | 4,4'-(4-iminocyclohexa-2,5-<br>dienylidene)methylene)<br>dianiline hydrochloride;<br>C.I. Basic Red 9 | Carc. 1B; H350  |

|                                      |  |
|--------------------------------------|--|
| <b>SECTION 4. First aid measures</b> |  |
|--------------------------------------|--|

|                         |   |
|-------------------------|---|
| 4.1                     | <b>Description of first aid measures</b>  |
| General notes:          | If the suggested first aid measures do not prove sufficient, seek medical attention.  |
| Following inhalation:   | Carry the afflicted person out of the contaminated area into a well-ventilated area or out for fresh air. In case of difficult breathing, provide the afflicted person with oxygen. |
| Following skin contact: | Remove contaminated clothing. Immediately wash with plenty of water for at least 20 minutes. Seek medical assistance if the symptoms of irritation remain.                          |
| Following eye contact:  | Rinse out with plenty of water with the eyelid held wide open for at least 20 minutes. If the symptoms remain, immediately call in ophthalmologist.                                 |

|               |                          |                      |               |          |   |
|---------------|--------------------------|----------------------|---------------|----------|---|
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|            |   |   |
|------------|---|---|
|            | Following ingestion:  | Rinse the oral cavity, drink 1-2 glasses of water. Immediately consult a physician and show the container or label. In case of swallowing large quantities, transport the afflicted person to the hospital. |
|            | Self-protection of the first aider:   | -   |
| <b>4.2</b> | <b>Most important symptoms and effects, both acute and delayed</b>                |   |
|            | Following inhalation:   | Depending on concentration and exposure time, it may lead to mucosa irritation, cough, and dyspnea.   |
|            | Following skin contact:   | Depending on concentration and exposure time, it may lead to irritation, rash, skin drying and skin cracking.   |
|            | Following eye contact:  | Depending on concentration and exposure time, it may lead to irritation, tearing, redness and pain.   |
|            | Following ingestion:  | Depending on concentration and exposure time, it may lead to stinging and digestive mucus damage, abdominal pain, nausea, vomiting.   |
| <b>4.3</b> | <b>Indication of any immediate medical attention and special treatment needed</b> |   |
|            | -   |   |

|   |  |   |
|---|--|---|
| <b>SECTION 5. Firefighting measures</b> |  |   |
| <b>5.1</b>                              | <b>Extinguishing media</b>   |   |
|   | Suitable extinguishing media:  | Small fire - water spray, dry powder, CO <sub>2</sub><br>Large fire - water spray or alcohol-resistant foam |
|   | Unsuitable extinguishing media:  | Water jet   |
| <b>5.2</b>                              | <b>Special hazards arising from the substance or mixture</b>                                 |   |
|   | Hazardous combustion products:   | Sulfur oxides.  |
| <b>5.3</b>                              | <b>Advice for firefighters</b>   |   |
|   | Use a self-contained open-circuit compressed air breathing apparatus and fireproof clothing. |   |
| <b>5.4</b>                              | <b>Additional information</b>  |   |
|   | Do not contaminate the environment with extinguishing media.                                 |   |

|   |  |  |
|---|--|--|
| <b>SECTION 6. Accidental release measures</b> |  |  |
| <b>6.1</b>                                    | <b>Personal precautions, protective equipment and emergency procedures</b> |  |
| <b>6.1.1.</b>                                 | <b>For non-emergency personnel</b>   |  |
|   | Protective equipment:  | Use personal protective equipment (see Section 8).   |
|   | Accident prevention methods:   | Evacuate members of all non-essential personnel and those members without protective equipment. Avoid breathing vapors and avoid contact with skin and eyes. Do not smoke. |
|   | Emergency procedures:  | Mark the area using proper signs.  |

|               |                          |                      |               |          |   |
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|        |  |   |
|--------|--|---|
| 6.1.2. | For emergency responders:  |   |
|        | Use protective equipment; in case of inadequate ventilation use adequate airways protective equipment (see Section 8).   |   |
| 6.2    | Environmental precautions:   |   |
|        | Do not dispose of in sewage, drainage system and waterways. In case of large spillage contact National Protection and Rescue Directorate (NPRD) on 112.        |   |
| 6.3    | Methods and material for containment and cleaning up   |   |
| 6.3.1. | Bundling, covering of drains; capping procedures:  | Sand or clay barriers.  |
| 6.3.2. | Cleaning up:   | Where possible, the substance can be absorbed by using absorbing material. Place the waste material in tightly closed impermeable containers. Store the substance in well ventilated storage rooms until disposal. Submit for disposal to the legal persons authorized by the Ministry of Environmental and Nature Protection. After disposal of the products, wash the area and involved materials with water. |
| 6.3.3. | Other information:   | Do not use incompatible materials (see Section 10).   |
| 6.4    | Reference to other sections  |   |
|        | See Section 7 for information on safe handling.<br>See Section 8 for information on personal protective equipment.<br>See Section 13 for disposal information. |   |

| SECTION 7. Handling and storage |  |  |
|---------------------------------|--|--|
| 7.1                             | Precautions for safe handling  |  |
| 7.1.1.                          | Protection measures  |  |
|                                 | Measures to prevent fire:  | Use in well ventilated storage rooms.  |
|                                 | Measures to prevent aerosol and dust generation:   | Secure proper ventilation.   |
|                                 | Measures to protect the environment:   | Prevent spilling into the sewage system and waterways.   |
|                                 | Other measures:  | -  |
| 7.1.2.                          | Advice on general occupational hygiene:  |  |
|                                 | Do not eat, drink or smoke in the workspace. Thoroughly wash hands after work and before eating. |  |
| 7.2                             | Conditions for safe storage, including any incompatibilities                                     |  |
|                                 | Technical measures and storage conditions:   | Keep in tightly closed and upright set containers in a well ventilated storage rooms at temperatures ranging from 2 to 8 °C. |
|                                 | Packaging materials:   | Manufacturer's original packaging. Avoid metal containers.   |
|                                 | Requirements for storage rooms and vessels:  | Keep away from food and drink. Keep the containers tightly closed.   |

|               |                          |                      |               |          |   |
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|                                |  |  |
|--------------------------------|--|--|
|                                | Advices for storage equipment:             | The storage must be made of hard material; floors must be resistant to chemicals. There must be no drain that directly leads into sewage system. Secure proper ventilation.  |
|                                | Further information on storage conditions: | Do not place the unused material in the storage room and do not use empty containers for storing other chemicals. Do not store with incompatible materials (see Section 10). |
| <b>7.3 Specific end use(s)</b> |  |  |
|                                | Recommendations:                           | -  |
|                                | Industrial sector specific solutions:      | -  |

**SECTION 8. Exposure controls/personal protection**

**8.1 Control parameters**

| Substance            | CAS No    | Occupational exposure limit values/short term values |                   | Biological limit values  |
|----------------------|-----------|--|-------------------|--------------------------|
|                      |           | ppm  | mg/m <sup>3</sup> |                          |
| sodium metabisulfite | 7681-57-4 | -/-  | 5/-               | No information available |

|                 |   |
|-----------------|---|
| Substance name: | - |
| EC No:          | - |
| CAS No:         | - |

**DNEL**

**Industrial**

| Route of exposure: | Acute effect local | Acute effect systemic | Chronic effect local | Chronic effect systemic |
|--------------------|--------------------|-----------------------|----------------------|-------------------------|
| Oral               | -                  | -                     | -                    | -                       |
| Inhalation         | -                  | -                     | -                    | -                       |
| Dermal             | -                  | -                     | -                    | -                       |

Critical physical parameters: solubility, flammability, corrosivity: -

**Consumer**

| Route of exposure: | Acute effect local | Acute effect systemic | Chronic effect local | Chronic effect systemic |
|--------------------|--------------------|-----------------------|----------------------|-------------------------|
| Oral               | -                  | -                     | -                    | -                       |
| Inhalation         | -                  | -                     | -                    | -                       |
| Dermal             | -                  | -                     | -                    | -                       |

**PNEC**

|                                 |             |
|---------------------------------|-------------|
| Environmental protection target | <b>PNEC</b> |
|---------------------------------|-------------|

|               |                          |                      |               |          |   |
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|                                    |                          |
|------------------------------------|--------------------------|
| Fresh water                        | No information available |
| Freshwater sediments               | No information available |
| Marine water                       | No information available |
| Marine sediments                   | No information available |
| Food chain                         | No information available |
| Microorganisms in sewage treatment | No information available |
| Soil (agricultural)                | No information available |
| Air                                | No information available |

|            |                          |
|------------|--------------------------|
| <b>8.2</b> | <b>Exposure controls</b> |
|------------|--------------------------|

|               |   |
|---------------|---|
| <b>8.2.1.</b> | <b>Appropriate engineering controls</b> |
|---------------|---|

|  |  |  |
|--|--|--|
|  | Substance/mixture related measures to prevent exposure during identified uses: | Use the product in well ventilated rooms. Use personal protective equipment. Do not eat, drink or smoke in the workspace.                                |
|  | Structural measures to prevent exposure:                                       | In accordance with Section 7.  |
|  | Organisational measures to prevent exposure:                                   | Organization of work in order to reduce other worker's influence during work process.  |
|  | Technical measures to prevent exposure:  | Secure proper workspace ventilation in order to keep concentration levels in air below permitted levels. Secure stations for rinsing eyes and showering. |

|               |                                      |
|---------------|--------------------------------------|
| <b>8.2.2.</b> | <b>Personal protection equipment</b> |
|---------------|--------------------------------------|

|                 |                          |  |
|-----------------|--------------------------|--|
| <b>8.2.2.1.</b> | Eye and face protection: | Safety glasses that stick to face (EN 166) or visor in case of lower levels of concentration in air; protective gas mask that covers the entire face in case of higher levels of concentration in air. |
| <b>8.2.2.2.</b> | Skin protection          |  |
|                 | Hand protection:         | Protective nitrile gloves, 0.11 mm thick (EN 374).   |
|                 | Other skin protection:   | Wear antistatic clothing made of natural fibers (such as cotton) with long sleeves (EN 340) and shoes that cover the entire foot.  |
| <b>8.2.2.3.</b> | Respiratory protection:  | Suitable mask (EN 136) or half mask (EN 140) equipped with a combined "A1 + Form" filter (EN 143) used when concentration levels exceed GVI.   |
| <b>8.2.2.4.</b> | Thermal hazards:         | No information available   |

|               |  |
|---------------|--|
| <b>8.2.3.</b> | <b>Environmental exposure controls</b> |
|---------------|--|

|  |   |                       |
|--|---|-----------------------|
|  | Substance/mixture related measures to prevent exposure: | See Section 6         |
|  | Structural measures to prevent exposure:                | Use modern equipment. |

|               |                          |                      |               |
|---------------|--------------------------|----------------------|---------------|
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|  |   |
|--|---|
| Organisational measures to prevent exposure: | Adapt the work process to the required working conditions of the workplace. |
| Technical measures to prevent exposure:      | See Section 6   |

**SECTION 9. Physical and chemical properties**

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

|   | Value                          | Method                   |
|---|--------------------------------|--------------------------|
| Physical state:   | liquid                         | No information available |
| Colour:   | colourless                     | No information available |
| Odour/odour threshold:                                    | sharp/no information available | No information available |
| Melting point / freezing point:                           | No information available       | No information available |
| Boiling point or initial boiling point and boiling range: | No information available       | No information available |
| Flammability:   | No information available       | No information available |
| Lower and upper explosion limit:                          | No information available       | No information available |
| Flash point:  | No information available       | No information available |
| Auto-ignition temperature:                                | No information available       | No information available |
| Decomposition temperature:                                | No information available       | No information available |
| pH:   | <2                             | No information available |
| Kinematic viscosity:                                      | No information available       | No information available |
| Solubility:   | No information available       | No information available |
| Partition coefficient n-octanol/water (log value):        | No information available       | No information available |
| Vapour pressure:  | No information available       | No information available |
| Density and/or relative density                           | No information available       | No information available |
| Relative vapour density:                                  | No information available       | No information available |
| Particle characteristics:                                 | No information available       | No information available |

**9.2 Other information**

|   |  |  |
|---|--|--|
| - |  |  |
|---|--|--|

**SECTION 10. Stability and reactivity**

|      |                                     |  |
|------|-------------------------------------|--|
| 10.1 | Reactivity:                         | No information available   |
| 10.2 | Chemical stability:                 | The product is chemically stable under standard ambient conditions of storing and using. |
| 10.3 | Possibility of hazardous reactions: | No information available   |

|               |                          |                      |               |          |   |
|---------------|--------------------------|----------------------|---------------|----------|---|
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|      |                                   |                               |
|------|-----------------------------------|-------------------------------|
| 10.4 | Conditions to avoid:              | No information available      |
| 10.5 | Incompatible materials:           | Strong oxidants (acids).      |
| 10.6 | Hazardous decomposition products: | Sulfur dioxide, sodium oxide. |

**SECTION 11. Toxicological information**

**11.1 Information on toxicological effects**

**Acute toxicity:**

| Route of exposure: | Method                  | Species   | Dose LD <sub>50</sub> /LC <sub>50</sub> or ATE <sub>mix</sub> | Exposure time | Results   |
|--------------------|-------------------------|---|---|---------------|---|
| Oral:              | OECD Test Guideline 401 | rat (sodium metabisulphite)<br>mouse (C.I. Basic Red 9) | LD <sub>50</sub>  | -             | 1.540 mg/kg (sodium metabisulphite)<br>5.000 mg/kg (C.I. Basic Red 9) |
| Dermal:            | OECD Test Guideline 402 | rat   | No information available                                      | -             | >2.000 mg/kg (sodium metabisulphite)                                  |
| Inhalation:        | OECD Test Guideline 403 | rat   | No information available                                      | 4h            | >5.5 mg/l (sodium metabisulphite)                                     |

**Specific target organ toxicity – single exposure (STOT SE):**

|             | Specific effects         | Target organ             | Note |
|-------------|--------------------------|--------------------------|------|
| Oral:       | No information available | No information available | -    |
| Dermal:     | No information available | No information available | -    |
| Inhalation: | No information available | No information available | -    |

**Aspiration hazard:** No information available.

**Irritation and corrosion**

|                               | Exposure time | Species | Evaluation | Method | Note |
|-------------------------------|---------------|---------|------------|--------|------|
| Skin corrosion/irritation:    | -             | -       | -          | -      | -    |
| Serious eye damage/irritation | -             | -       | -          | -      | -    |

**Sensitization**

|                     |                          |
|---------------------|--------------------------|
| Skin sensitization: | No information available |
|---------------------|--------------------------|

|               |                          |                      |               |            |
|---------------|--------------------------|----------------------|---------------|------------|
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|                            |                          |
|----------------------------|--------------------------|
| Respiratory sensitization: | No information available |
|----------------------------|--------------------------|

|  |
|--|
| Symptoms related to the physical, chemical and toxicological characteristics |
|--|

|                      |   |
|----------------------|---|
| Oral exposure:       | May cause gastrointestinal irritation accompanied by abdominal pains and cramps; higher levels of concentration may induce vomiting and diarrhea.   |
| Dermal exposure:     | May cause skin irritation.  |
| Inhalation exposure: | May cause respiratory system irritation. At high levels of concentration, prolonged exposure and when used by sensitive persons bronchospasm may occur, as well as asthma attack and gastrointestinal irritation. |
| Eye exposure:        | May cause eye irritation.   |

|  |
|--|
| Repeated dose toxicity (subacute, subchronic, chronic) |
|--|

|                       | Dose                     | Exposure time            | Species                  | Method                   | Evaluation               | Note |
|-----------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|------|
| Subacute oral         | No information available | No information available | No information available | No information available | No information available | -    |
| Subacute dermal       | No information available | No information available | No information available | No information available | No information available | -    |
| Subacute inhalation   | No information available | No information available | No information available | No information available | No information available | -    |
| Subchronic oral       | No information available | No information available | No information available | No information available | No information available | -    |
| Subchronic dermal     | No information available | No information available | No information available | No information available | No information available | -    |
| Subchronic inhalation | No information available | No information available | No information available | No information available | No information available | -    |
| Chronic oral          | No information available | No information available | No information available | No information available | No information available | -    |
| Chronic dermal        | No information available | No information available | No information available | No information available | No information available | -    |
| Chronic inhalation    | No information available | No information available | No information available | No information available | No information available | -    |

|               |                          |                      |               |          |   |
|---------------|--------------------------|----------------------|---------------|----------|---|
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|  |  |                          |      |
|--|--|--------------------------|------|
| Specific target organ toxicity – repeated exposure (STOT RE):      |  |                          |      |
|  | Specific effects   | Target organ             | Note |
| Subacute oral  | No information available   | No information available | -    |
| Subacute dermal  | No information available   | No information available | -    |
| Subacute inhalation  | No information available   | No information available | -    |
| Subchronic oral  | No information available   | No information available | -    |
| Subchronic dermal  | No information available   | No information available | -    |
| Subchronic inhalation  | No information available   | No information available | -    |
| Chronic oral   | No information available   | No information available | -    |
| Chronic dermal   | No information available   | No information available | -    |
| Chronic inhalation   | No information available   | No information available | -    |
| CMR effects (carcinogenicity; mutagenicity; reproductive toxicity) |  |                          |      |
|  | Carcinogenicity:   | No information available |      |
|  | Mutagenicity <i>in vitro</i> :                                     | No information available |      |
|  | Genotoxicity:  | No information available |      |
|  | Mutagenicity <i>in vivo</i> :                                      | No information available |      |
|  | Germ cell mutagenicity:  | No information available |      |
|  | Reproductive toxicity:   | No information available |      |
|  | Summary of evaluation of the CMR properties:                       | No information available |      |
| 11.2   | Information on other hazards:                                      |                          |      |
| 11.2.1   | Endocrine disrupting properties:                                   |                          |      |
|  | No known endocrine disrupting properties that affect human health. |                          |      |

|               |                          |                      |               |          |   |
|---------------|--------------------------|----------------------|---------------|----------|---|
| Trading name: | <b>BIOSCHIFF REAGENT</b> |                      |               |          |   |
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|        |                     |
|--------|---------------------|
| 11.2.2 | Other informations: |
|        | -                   |

**SECTION 12. Ecological information**

**12.1 Toxicity**

| Acute (short-term) toxicity  | Dose             | Exposure time | Species  | Method                   | Evaluation   | Note |
|------------------------------|------------------|---------------|--|--------------------------|--|------|
| Fish                         | LC <sub>50</sub> | 96 hours      | Golden orfe (sodium metabisulphite)<br>Mosquito fish (hydrochloric acid) | No information available | 316 mg/l (sodium metabisulphite)<br>282 mg/l (hydrochloric acid) | -    |
| Crustacea:                   | EC <sub>50</sub> | 48 hours      | Daphnia magna (sodium metabisulphite)                                    | No information available | 89 mg/l (sodium metabisulphite)                                  | -    |
| Algae/aquatic plants         | IC <sub>50</sub> | 4 days        | Green algae (sodium metabisulphite)                                      | No information available | 43.8 mg/l (sodium metabisulphite)                                | -    |
| Other organisms              | -                | -             | -  | -                        | -  | -    |
| Chronic (long-term) toxicity | Dose             | Exposure time | Species  | Method                   | Evaluation   | Note |
| Fish                         | LC <sub>50</sub> | 96 hours      | No information available   | No information available | No information available   | -    |
| Crustacea:                   | EC <sub>50</sub> | 48 hours      | No information available   | No information available | No information available   | -    |
| Algae/aquatic plants         | IC <sub>50</sub> | 72 hours      | No information available   | No information available | No information available   | -    |
| Other organisms              | -                | -             | -  | -                        | -  | -    |

**12.2 Persistence and degradability**

**Abiotic degradation**

|              | Degradation half-lives   | Method                   | Evaluation               | Note |
|--------------|--------------------------|--------------------------|--------------------------|------|
| Marine water | No information available | No information available | No information available | -    |

|               |                          |                      |               |          |   |
|---------------|--------------------------|----------------------|---------------|----------|---|
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|             |                          |                          |                          |   |
|-------------|--------------------------|--------------------------|--------------------------|---|
| Fresh water | No information available | No information available | No information available | - |
| Air         | No information available | No information available | No information available | - |
| Soil        | No information available | No information available | No information available | - |

|                          |                          |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Biodegradation           |                          |                          |                          |                          |
| % Degradation            | Time (days)              | Method                   | Evaluation               | Note                     |
| No information available | No information available | No information available | No information available | No information available |
|                          |                          |                          |                          |                          |

**12.3 Bioaccumulative potential**

|   |               |    |    |        |            |      |
|---|---------------|----|----|--------|------------|------|
| Octanol-water partition coefficient (log Kow) |               |    |    |        |            |      |
| Value   | Concentration | pH | °C | Method | Evaluation | Note |
| -   | -             | -  | -  | -      | -          | -    |
|   |               |    |    |        |            |      |

|                               |                          |                          |                          |      |
|-------------------------------|--------------------------|--------------------------|--------------------------|------|
| Bioconcentration factor (BCF) |                          |                          |                          |      |
| Value                         | Species                  | Method                   | Evaluation               | Note |
| No information available      | No information available | No information available | No information available | -    |
|                               |                          |                          |                          |      |

|                          |                  |                          |                          |                          |                          |      |
|--------------------------|------------------|--------------------------|--------------------------|--------------------------|--------------------------|------|
| Chronic ecotoxicity      |                  |                          |                          |                          |                          |      |
| Value                    | Dose             | Exposure time            | Species                  | Method                   | Evaluation               | Note |
| Chronic toxicity on fish | LC <sub>50</sub> | No information available | No information available | No information available | No information available | -    |

|               |                          |                      |               |          |   |
|---------------|--------------------------|----------------------|---------------|----------|---|
| Trading name: | <b>BIOSCHIFF REAGENT</b> |                      |               |          |   |
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|  |                  |                          |                          |                          |                          |   |
|--|------------------|--------------------------|--------------------------|--------------------------|--------------------------|---|
| Chronic toxicity on crustacea ( <i>Daphnia</i> ) | EC <sub>50</sub> | No information available | No information available | No information available | No information available | - |
|--|------------------|--------------------------|--------------------------|--------------------------|--------------------------|---|

**12.4 Mobility in soil**

|  |                          |                          |                          |                          |      |  |
|--|--------------------------|--------------------------|--------------------------|--------------------------|------|--|
| Known or predicted distribution in environmental compartments: |                          |                          |                          |                          |      |  |
| No information available                                       |                          |                          |                          |                          |      |  |
| Surface tension:   |                          |                          |                          |                          |      |  |
|  | Value                    | °C                       | Concentration            | Method                   | Note |  |
|  | No information available | No information available | No information available | No information available | -    |  |

**Adsorption / desorption**

|            |                                  |                          |                          |                          |      |  |
|------------|----------------------------------|--------------------------|--------------------------|--------------------------|------|--|
| Transport  | A/D coefficient Henry's constant | log Kow                  | Evaporation rate         | Method                   | Note |  |
| Soil-water | No information available         | No information available | No information available | No information available | -    |  |
| Water-air  | No information available         | No information available | No information available | No information available | -    |  |
| Soil-air   | No information available         | No information available | No information available | No information available | -    |  |

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

Substance(s) in the mixture do(es) not meet the criteria for PBT or vPvB

**12.6. Endocrine disrupting properties**

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**12.7. Other adverse effects**

No information available

**SECTION 13. Disposal considerations**

|               |                          |                      |               |          |   |
|---------------|--------------------------|----------------------|---------------|----------|---|
| Trading name: | <b>BIOSCHIFF REAGENT</b> |                      |               |          |   |
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|         |   |
|---------|---|
| 13.1    | Waste treatment methods   |
| 13.1.1. | Product/Packaging disposal:   |
|         | Submit for disposal to the legal person authorized by the Ministry of Environmental and Nature Protection.  |
| 13.1.2. | Waste codes/waste designations according to Law:  |
|         | Packaging that contains residual hazardous substances or is contaminated with hazardous substances  |
| 13.1.3. | Waste treatment – relevant information:   |
|         | No information available  |
| 13.1.4. | Sewage disposal – relevant information:   |
|         | Waste must not be disposed of into the sewage system.   |
| 13.1.5. | Other disposal recommendations:   |
|         | Do not dispose of the product's remains into the sewage system. Submit the remains to the collectors authorized by the ministry in charge. Do not dispose of the packaging into the sewage system. Submit the packaging to the collectors authorized by the ministry in charge. |
| 13.1.6. | Relevant Community provisions:  |
|         | -   |

|  |  |
|--|--|
| <b>SECTION 14. Transport information</b> |  |
|--|--|

|                                     |                                      |
|-------------------------------------|--------------------------------------|
| Transporting/shipment by road (ADR) |                                      |
| UN number:                          | Not subject to transport regulations |
| UN proper shipping name:            | -                                    |
| Transport hazard class(es):         | -                                    |
| Packing group:                      | -                                    |
| Environmentally hazardous:          | -                                    |
| Special precautions for user:       | -                                    |
| Transporting/shipment by rail (RID) |                                      |
| UN number:                          | Not subject to transport regulations |
| UN proper shipping name:            | -                                    |
| Transport hazard class(es):         | -                                    |
| Packing group:                      | -                                    |
| Environmentally hazardous:          | -                                    |

|               |                          |                      |               |            |
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|   |                                      |
|---|--------------------------------------|
| Special precautions for user:   | -                                    |
| Inland waterway transport (ADN)   |                                      |
| UN number:  | Not subject to transport regulations |
| UN proper shipping name:  | -                                    |
| Transport hazard class(es):   | -                                    |
| Packing group:  | -                                    |
| Environmentally hazardous:  | -                                    |
| Special precautions for user:   | -                                    |
| Transporting/shipment by sea (IMDG)                                       |                                      |
| UN number:  | Not subject to transport regulations |
| UN proper shipping name:  | -                                    |
| Transport hazard class(es):   | -                                    |
| Packing group:  | -                                    |
| Environmentally hazardous:  | -                                    |
| Special precautions for user:   | -                                    |
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code: | -                                    |
| Transporting/shipment by air (ICAO-TI/IATA-DGR)                           |                                      |
| UN number:  | Not subject to transport regulations |
| UN proper shipping name:  | -                                    |
| Transport hazard class(es):   | -                                    |
| Packing group:  | -                                    |
| Environmentally hazardous:  | -                                    |
| Special precautions for user:   | -                                    |
| Further information:  | -                                    |

| <b>SECTION 15. Regulatory information</b> |  |
|---|--|
| 15.1                                      | Safety, health and environmental regulations/legislation specific for the substance or mixture |
|   | EU regulations   |
|   | Authorization and/or restrictions of use   |
|   | Authorizations: -  |
|   | Restrictions: -  |

|               |                          |                      |               |          |   |
|---------------|--------------------------|----------------------|---------------|----------|---|
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|  |   |
|--|---|
| Other EU regulations:  | <p>Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC; Directive 2004/42/CE of the European Parliament and of the Council of 21 April 2004 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC;</p> <p>Council Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work;</p> <p>Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006;</p> <p>REACH Restrictions on the manufacturing, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII);</p> |
| Information according 1999/13/EC about limitation of emissions of volatile organic compounds (VOC-guideline) |   |
| National legislation:  | <p>Chemicals Act, Regulation on classification, packaging and labeling of dangerous substances, Ordinance on occupational exposure limit values and on biological limit values, Regulation on categories, types and classification of waste with a waste catalog and list of hazardous waste, Ordinance on writing Material safety data sheet, Transport of Hazardous Substances Act</p>  |
| 15.2   | Chemical safety assessment  |
|  | None  |

| <b>SECTION 16. Other information</b> |   |   |
|--------------------------------------|---|---|
| 16.1                                 | Indication of changes:                        | -   |
| 16.2                                 | Abbreviations and acronyms:                   | <p>ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)</p> <p>IMDG: International Maritime Code for Dangerous Goods</p> <p>IATA: International Air Transport Association</p> <p>GHS: Globally Harmonised System of Classification and Labelling of Chemicals</p> <p>EINECS: European Inventory of Existing Commercial Chemical Substances</p> <p>CAS: Chemical Abstracts Service (division of the American Chemical Society)</p> <p>DNEL: Derived No-Effect Level (UK REACH)</p> <p>LC50: Lethal concentration, 50 percent</p> <p>LD50: Lethal dose, 50 percent</p> <p>PBT: Persistent, Bioaccumulative and Toxic</p> <p>vPvB: very Persistent and very Bioaccumulative</p> |
| 16.3.                                | Key literature references and source of data: | -   |

|               |                          |                      |               |          |   |
|---------------|--------------------------|----------------------|---------------|----------|---|
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|       |   |   |
|-------|---|---|
| 16.4. | Classification and procedure used to derive the classification for mixture according to Regulation (EC) 1272/2008 (CLP) |   |
|       | Classification  | Classification procedure  |
|       | -   | -   |
| 16.5. | Relevant H statements (number and full text)  |   |
|       | H: 302  | Harmful if swallowed.   |
|       | 314   | Causes severe skin burns and eye damage   |
|       | 318   | Causes serious eye damage.  |
|       | 331   | Toxic if inhaled.   |
|       | 350   | May cause cancer.   |
|       | EUH031  | Contact with acids liberates toxic gas.   |
| 16.6. | Training advice:  | -   |
| 16.7. | Further information:  | ** "X" in the product code marks different volumes (different packagings of the product)<br>We are not responsible for consequences in case of failure to comply with instructions for use or improper use of the product described in this material safety data sheet. |

|   |
|---|
| <b>ANNEX: Exposure scenario resulting to chemical safety assessment</b> |
| -   |


| Version | Description / reason of change          | Date        |
|---------|---|-------------|
| 6.      | Change of storage temperature to 2–8 °C | 18.03.2026. |

|               |                                       |                |             |            |
|---------------|---------------------------------------|----------------|-------------|------------|
| Trading name: | <b>SODIUM METABISULFITE, SOLUTION</b> |                |             |            |
| Product code: | NM-OT-X**                             | Revision date: | 21 Dec 2022 | Version: 4 |

| <b>SECTION 1: Identification of the substance/mixture and of the company/undertaking</b> |  |
|--|--|
| 1.1.   | Product identifier   |
|  | Trading name: SODIUM METABISULFITE, SOLUTION   |
|  | Chemical name: -   |
|  | Catalogue number: NM-OT-X**  |
| 1.2.   | Relevant identified uses of the substance or mixture and uses advised against  |
|  | Uses: For use with special staining kits.  |
|  | Uses advised against: Only the identified uses are advised.  |
|  | Reason why uses advised against: The product is intended for use only as an <i>in vitro</i> diagnostic medical device, registered at the Agency for Medicinal Products and Medical Devices and there is no reason to use it for other purposes |
| 1.3.   | Details of the supplier of the safety data sheet   |
|  | Supplier: BioGnost Ltd.  |
|  | Address: Medjugorska 59, Zagreb  |
|  | Telephone number: +385 1 2409997   |
|  | Fax no.: +385 1 2404039  |
|  | e-mail of competent person: <a href="mailto:msds@biognost.hr">msds@biognost.hr</a>   |
|  | National contact: -  |
| 1.4.   | Emergency telephone number   |
|  | National Protection and Rescue Directorate: 112  |
|  | Medical information: +385 1 2348 342   |
|  | Other information: -   |

| <b>SECTION 2. Hazards identification</b>                           |   |                                 |                     |            |      |
|--|---|---------------------------------|---------------------|------------|------|
| 2.1.   | Classification of the substance or mixture  |                                 |                     |            |      |
| 2.1.1.   | Classification according to Regulation (EC) No 1272/2008 (CLP)  |                                 |                     |            |      |
|  | <table style="width: 100%; border: none;"> <tr> <td style="width: 60%; border: none;">Hazard class and category code:</td> <td style="border: none;">Hazard statements*:</td> </tr> <tr> <td style="border: none;">Eye Irr. 2</td> <td style="border: none;">H319</td> </tr> </table> | Hazard class and category code: | Hazard statements*: | Eye Irr. 2 | H319 |
| Hazard class and category code:                                    | Hazard statements*:   |                                 |                     |            |      |
| Eye Irr. 2   | H319  |                                 |                     |            |      |
| 2.1.2.   | Additional information  |                                 |                     |            |      |
|  | -   |                                 |                     |            |      |
| *For full text of Hazard- and EU Hazard-statements: see Section 16 |   |                                 |                     |            |      |
| 2.2.   | Label elements  |                                 |                     |            |      |
|  | Product identification: SODIUM METABISULFITE, SOLUTION  |                                 |                     |            |      |
|  | Identification number: -  |                                 |                     |            |      |
|  | Authorization no.: -  |                                 |                     |            |      |

|               |                                       |                |             |            |
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|                                       |  |
|---------------------------------------|--|
| Hazard pictograms:                    |   |
|                                       | GHS07  |
| Signal word:                          | Warning  |
| Hazard statements:                    | H319 Causes serious eye irritation.  |
| Precautionary statements:             | P280 Wear protective gloves/protective clothing/eye protection/face protection.<br>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.<br>P308+P313 IF exposed or concerned: Immediately call a POISON CENTER or physician. |
| Supplemental hazard information (EU): | -  |

|      |   |
|------|---|
| 2.3. | Other hazards   |
|      | <p><b>Endocrine Disrupting Properties:</b><br/> No known endocrine disrupting properties</p> <p><b>Results of PBT and vPvB assessment:</b> According to the results of its assessment, this substance is not a PBT or a vPvB.</p> |

**SECTION 3. Composition/information on ingredients**

| CAS/<br>EC/<br>Index no.                 | REACH<br>Registration No | Weight % content<br>(or range) | Identification<br>name  | Classification according to Regulation<br>(EC) No 1272/2008 (CLP) |
|--|--------------------------|--------------------------------|-------------------------|---|
| 7681-57-4/<br>231-673-0/<br>016-063-00-2 | -                        | < 10 %                         | sodium<br>metabisulfite | Acute Tox. 4, H302<br>Eye Dam. 1; H318<br>EUH031                  |

**SECTION 4. First aid measures**

|      |   |
|------|---|
| 4.1. | Description of first aid measures   |
|      | <p>General notes: Take off contaminated clothing.</p> <p>Following inhalation: Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.</p> <p>Following skin contact: Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.</p> <p>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.</p> |

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|             |   |  |
|-------------|---|--|
|             | Following ingestion:  | Rinse mouth. Call a doctor if you feel unwell.     |
|             | Self-protection of the first aider:   | Treat symptomatically.                             |
| <b>4.2.</b> | <b>Most important symptoms and effects, both acute and delayed</b>                |  |
|             | Following inhalation:   | No information available                           |
|             | Following skin contact:   | No information available                           |
|             | Following eye contact:  | Risk of blindness, Risk of serious damage to eyes. |
|             | Following ingestion:  | No information available                           |
| <b>4.3.</b> | <b>Indication of any immediate medical attention and special treatment needed</b> |  |
|             | -   |  |

|   |  |   |
|---|--|---|
| <b>SECTION 5. Firefighting measures</b> |  |   |
| <b>5.1.</b>                             | <b>Extinguishing media</b>   |   |
|   | Suitable extinguishing media:  | Small fire - water spray, dry powder, foam, CO <sub>2</sub><br>Large fire - water spray or alcohol-resistant foam |
|   | Unsuitable extinguishing media:  | water jet   |
| <b>5.2.</b>                             | <b>Special hazards arising from the substance or mixture</b>   |   |
|   | Hazardous combustion products:   | No information available  |
| <b>5.3.</b>                             | <b>Advice for firefighters</b>   |   |
|   | Do not enter fire area without proper protective equipment, including respiratory protection.        |   |
| <b>5.4.</b>                             | <b>Additional information</b>  |   |
|   | Remove sources of heat and ignition.<br>Do not contaminate the environment with extinguishing media. |   |

|   |   |  |
|---|---|--|
| <b>SECTION 6. Accidental release measures</b> |   |  |
| <b>6.1.</b>                                   | <b>Personal precautions, protective equipment and emergency procedures</b>  |  |
| <b>6.1.1.</b>                                 | <b>For non-emergency personnel</b>  |  |
|   | Protective equipment:   | Use personal protective equipment (see Section 8).   |
|   | Accident prevention methods:  | Evacuate members of all non-essential personnel and those members without protective equipment. Remove all sources of sparks and ignition. Do not smoke. |
|   | Emergency procedures:   | Mark the area using proper signs.  |
| <b>6.1.2.</b>                                 | <b>For emergency responders:</b>  |  |
|   | Do not enter fire area without proper protective equipment, including respiratory protection.   |  |
| <b>6.2.</b>                                   | <b>Environmental precautions:</b>   |  |
|   | Do not dispose of in sewage, drainage system and waterways. In case of large spillage contact National Protection and Rescue Directorate (NPRD) on 112. |  |

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|        |   |   |
|--------|---|---|
| 6.3.   | Methods and material for containment and cleaning up  |   |
| 6.3.1. | Bunding, covering of drains; capping procedures:  | Covering of drains. Take up mechanically.   |
| 6.3.2. | Cleaning up:  | Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. On land, sweep or shovel into suitable containers. Submit for disposal to the legal persons authorized by the Ministry of Environmental and Nature Protection. After disposal of the products, wash the area and involved materials with water. |
| 6.3.3. | Other information:  | Place in appropriate containers for disposal.   |
| 6.4.   | Reference to other sections   |   |
|        | See Section 7 for information about secure handling.<br>See Section 8 for information about personal protective equipment.<br>See Section 13 for information about containment. |   |

|  |  |   |
|--|--|---|
| <b>SECTION 7. Handling and storage</b> |  |   |
| 7.1.                                   | Precautions for safe handling  |   |
| 7.1.1.                                 | Protection measures  |   |
|  | Measures to prevent fire:  | Keep away from sources of heat and ignition. Do not smoke.  |
|  | Measures to prevent aerosol and dust generation:   | Secure proper ventilation.  |
|  | Measures to protect the environment:   | Prevent spilling into the sewage system and waterways.  |
|  | Other measures:  | -   |
| 7.1.2.                                 | Advice on general occupational hygiene:  |   |
|  | Do not eat, drink or smoke in the workspace. Thoroughly wash hands after work and before eating. |   |
| 7.2.                                   | Conditions for safe storage, including any incompatibilities                                     |   |
|  | Technical measures and storage conditions:   | Keep in tightly closed and upright set containers in a well ventilated place.   |
|  | Packaging materials:   | Manufacturer's original packaging.  |
|  | Requirements for storage rooms and vessels:  | Keep away from food and drink. Keep the containers tightly closed.  |
|  | Advices for storage equipment:   | The storage must be made of hard material; floors must be resistant to chemicals. There must be no drain that directly leads into sewage system. Secure proper ventilation. |
|  | Further information on storage conditions:   | Do not place the unused material in the storage room and do not use empty containers for storing other chemicals. Do not store with incompatible materials (see Section 9). |

|               |                                       |                |             |            |
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|      |                                       |   |  |  |
|------|---------------------------------------|---|--|--|
| 7.3. | Specific end use(s)                   |   |  |  |
|      | Recommendations:                      | - |  |  |
|      | Industrial sector specific solutions: | - |  |  |

**SECTION 8. Exposure controls/personal protection**

8.1. Control parameters

| Substance | CAS No | Occupational exposure limit values/short term values |                   | Biological limit values  |
|-----------|--------|--|-------------------|--------------------------|
|           |        | ppm  | mg/m <sup>3</sup> |                          |
| -         | -      | -  | -                 | No information available |

Substance name: -

EC No: - CAS No: -

**DNEL**

**Industrial**

| Route of exposure: | Acute effect local | Acute effect systemic | Chronic effect local | Chronic effect systemic |
|--------------------|--------------------|-----------------------|----------------------|-------------------------|
| Oral               | -                  | -                     | -                    | -                       |
| Inhalation         | -                  | -                     | -                    | -                       |
| Dermal             | -                  | -                     | -                    | -                       |

Critical physical parameters: solubility, flammability, corrosivity: -

**Consumer**

| Route of exposure: | Acute effect local | Acute effect systemic | Chronic effect local | Chronic effect systemic |
|--------------------|--------------------|-----------------------|----------------------|-------------------------|
| Oral               | -                  | -                     | -                    | -                       |
| Inhalation         | -                  | -                     | -                    | -                       |
| Dermal             | -                  | -                     | -                    | -                       |

**PNEC**

| Environmental protection target    | PNEC                     |
|------------------------------------|--------------------------|
| Fresh water                        | No information available |
| Freshwater sediments               | No information available |
| Marine water                       | No information available |
| Marine sediments                   | No information available |
| Food chain                         | No information available |
| Microorganisms in sewage treatment | No information available |

|               |                                       |                |             |            |
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|                     |                          |
|---------------------|--------------------------|
| Soil (agricultural) | No information available |
| Air                 | No information available |

**8.2. Exposure controls**

**8.2.1. Engineering measures**

|  |   |
|--|---|
| Substance/mixture related measures to prevent exposure during identified uses: | Use the product in well ventilated rooms. Use personal protective equipment. Do not eat, drink or smoke in the workspace. |
| Structural measures to prevent exposure:                                       | No information available  |
| Organisational measures to prevent exposure:                                   | Organization of work in order to reduce other worker's influence during work process.                                     |
| Technical measures to prevent exposure:  | Secure proper workspace ventilation in order to keep concentration levels in air below permitted levels.                  |

**8.2.2. Personal protection equipment**

|                                   |  |
|-----------------------------------|--|
| 8.2.2.1. Eye and face protection: | Safety glasses that stick to face (preventing splashing) (EN 166) or visor.  |
| 8.2.2.2. Skin protection          |  |
| Hand protection:                  | Chemical protection gloves are suitable, which are tested according to EN 374.<br>Glove material: nitrile rubber<br>Glove thickness: > 0.11 mm<br>Break through time: >480 min |
| Other skin protection:            | Wear antistatic clothing made of natural fibers (such as cotton) with long sleeves (EN 13034), and shoes that cover the entire foot (EN 10335).                                |
| 8.2.2.3. Respiratory protection:  | In case of inadequate ventilation wear respiratory protection.   |
| 8.2.2.4. Thermal hazards:         | No information available   |

**8.2.3. Environmental exposure controls**

|   |  |
|---|--|
| Substance/mixture related measures to prevent exposure: | See Section 6  |
| Structural measures to prevent exposure:                | Use modern equipment.  |
| Organisational measures to prevent exposure:            | Adapt the work process to the required working conditions of the workplace. Keep away from drains, surface and ground water. |
| Technical measures to prevent exposure:                 | See Section 6  |

**SECTION 9. Physical and chemical properties**

**9.1. Information on basic physical and chemical properties**

|               |                                       |                |             |            |
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|   | Value   | Method                   |
|---|---|--------------------------|
| Physical state:   | liquid  | No information available |
| Color:  | colourless  | No information available |
| Odour/odour threshold:                                    | No information available/no information available | No information available |
| Melting point / freezing point:                           | No information available                          | No information available |
| Boiling point or initial boiling point and boiling range: | No information available                          | No information available |
| Flammability:   | No information available                          | No information available |
| Lower and upper explosion limit:                          | No information available                          | No information available |
| Flash point:  | No information available                          | No information available |
| Auto-ignition temperature:                                | No information available                          | No information available |
| Decomposition temperature:                                | No information available                          | No information available |
| pH:   | No information available                          | No information available |
| Kinematic viscosity:                                      | No information available                          | No information available |
| Solubility:   | No information available                          | No information available |
| Partition coefficient n-octanol/water (log value):        | No information available                          | No information available |
| Vapour pressure:  | No information available                          | No information available |
| Density and/or relative density                           | No information available                          | No information available |
| Relative vapour density:                                  | No information available                          | No information available |
| Particle characteristics:                                 | No information available                          | No information available |
| 9.2.  | Other information                                 |                          |
|   | -   |                          |

| <b>SECTION 10.: Stability and reactivity</b> |                                     |  |
|--|-------------------------------------|--|
| 10.1.  | Reactivity:                         | See subsections 10.3 through 10.5.   |
| 10.2.  | Chemical stability:                 | The product is chemically stable under standard ambient conditions of storing and using. |
| 10.3.  | Possibility of hazardous reactions: | No information available.  |
| 10.4.  | Conditions to avoid:                | No information available.  |
| 10.5.  | Incompatible materials:             | No information available.  |
| 10.6.  | Hazardous decomposition products:   | No information available.  |

| <b>SECTION 11. Toxicological information</b> |  |
|--|--|
| 11.1.  | Information on hazard classes as defined in Regulation (EC) No 1272/2008 |

|               |                                       |                |             |          |   |
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|                 |  |  |  |  |  |
|-----------------|--|--|--|--|--|
| Acute toxicity: |  |  |  |  |  |
|-----------------|--|--|--|--|--|

| Route of exposure:   | Method                   | Species | Effective dose<br>LD <sub>50</sub> /LC <sub>50</sub><br>or<br>ATE <sub>mixture</sub> | Exposure time | Results |
|----------------------|--------------------------|---------|--|---------------|---------|
| Oral exposure:       | No information available | -       | LD <sub>50</sub>   | -             | -       |
| Dermal exposure:     | No information available | -       | LD <sub>50</sub>   | -             | -       |
| Inhalation exposure: | No information available | -       | LC <sub>50</sub>   | -             | -       |

|   |  |  |  |
|---|--|--|--|
| Specific target organ toxicity – single exposure (STOT SE): |  |  |  |
|---|--|--|--|

|                      | Specific effects         | Target organ             | Note |
|----------------------|--------------------------|--------------------------|------|
| Oral exposure:       | No information available | No information available | -    |
| Dermal exposure:     | No information available | No information available | -    |
| Inhalation exposure: | No information available | No information available | -    |

|                         |                          |
|-------------------------|--------------------------|
| Respiratory irritation: | No information available |
|-------------------------|--------------------------|

|                          |  |  |  |  |  |
|--------------------------|--|--|--|--|--|
| Irritation and corrosion |  |  |  |  |  |
|--------------------------|--|--|--|--|--|

|                  | Exposure time | Species | Evaluation | Method | Note                      |
|------------------|---------------|---------|------------|--------|---------------------------|
| Skin irritation: | -             | -       | -          | -      |                           |
| Eye irritation:  | -             | -       | -          | -      | Causes serious eye damage |

|               |  |
|---------------|--|
| Sensitization |  |
|---------------|--|

|                      |                          |
|----------------------|--------------------------|
| Dermal exposure:     | No information available |
| Inhalation exposure: | No information available |

|  |  |
|--|--|
| Symptoms related to the physical, chemical and toxicological characteristics |  |
|--|--|

|                      |                          |
|----------------------|--------------------------|
| Oral exposure:       | No information available |
| Dermal exposure:     | No information available |
| Inhalation exposure: | No information available |

|               |                                       |                |             |            |
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|               |                           |
|---------------|---------------------------|
| Eye exposure: | Causes serious eye damage |
|---------------|---------------------------|

|  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|
| Repeated dose toxicity (subacute, subchronic, chronic) |  |  |  |  |  |  |
|--|--|--|--|--|--|--|

|                       | Dose                     | Exposure time            | Species                  | Method                   | Evaluation               | Note |
|-----------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|------|
| Subacute oral         | No information available | No information available | No information available | No information available | No information available | -    |
| Subacute dermal       | No information available | No information available | No information available | No information available | No information available | -    |
| Subacute inhalation   | No information available | No information available | No information available | No information available | No information available | -    |
| Subchronic oral       | No information available | No information available | No information available | No information available | No information available | -    |
| Subchronic dermal     | No information available | No information available | No information available | No information available | No information available | -    |
| Subchronic inhalation | No information available | No information available | No information available | No information available | No information available | -    |
| Chronic oral          | No information available | No information available | No information available | No information available | No information available | -    |
| Chronic dermal        | No information available | No information available | No information available | No information available | No information available | -    |
| Chronic inhalation    | No information available | No information available | No information available | No information available | No information available | -    |

|   |  |  |  |
|---|--|--|--|
| Specific target organ toxicity – repeated exposure (STOT RE): |  |  |  |
|---|--|--|--|

|                     | Specific effects         | Target organ             | Note |
|---------------------|--------------------------|--------------------------|------|
| Subacute oral       | No information available | No information available | -    |
| Subacute dermal     | No information available | No information available | -    |
| Subacute inhalation | No information available | No information available | -    |
| Subchronic oral     | No information available | No information available | -    |
| Subchronic dermal   | No information available | No information available | -    |

|               |                                       |                |             |          |   |
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|                       |                          |                          |   |
|-----------------------|--------------------------|--------------------------|---|
| Subchronic inhalation | No information available | No information available | - |
| Chronic oral          | No information available | No information available | - |
| Chronic dermal        | No information available | No information available | - |
| Chronic inhalation    | No information available | No information available | - |

|  |                          |
|--|--------------------------|
| CMR effects (carcinogenicity, mutagenicity, reproductive toxicity) |                          |
| Carcinogenicity:   | No information available |
| Mutagenicity <i>in-vitro</i> :                                     | No information available |
| Genotoxicity:  | No information available |
| Mutagenicity <i>in-vivo</i> :                                      | No information available |
| Germ cell mutagenicity:  | No information available |
| Reproductive toxicity:   | No information available |

|  |   |
|--|---|
| Summary of evaluation of the CMR properties: | - |
|--|---|

|         |  |
|---------|--|
| 11.2.   | Information on other hazards:                                      |
| 11.2.1. | Endocrine disrupting properties:                                   |
|         | No known endocrine disrupting properties that affect human health. |
| 11.2.2. | Other informations:  |
|         | -  |

## SECTION 12. Ecological information

| 12.1. Toxicity              |                  |               |                          |                          |                          |      |
|-----------------------------|------------------|---------------|--------------------------|--------------------------|--------------------------|------|
| Acute (short-term) toxicity | Dose             | Exposure time | Species                  | Method                   | Evaluation               | Note |
| Fish                        | LC <sub>50</sub> | 96 hours      | No information available | No information available | No information available | -    |
| Crustacea:                  | EC <sub>50</sub> | 48 hours      | No information available | No information available | No information available | -    |
| Algae/aquatic plants        | IC <sub>50</sub> | 8 days        | No information available | No information available | No information available | -    |
| Microorganisms              | LC <sub>50</sub> | 72 hours      | -                        | -                        | -                        | -    |
| Chronic toxicity            | Dose             | Exposure time | Species                  | Method                   | Evaluation               | Note |
| Fish                        | LC <sub>50</sub> | 96 hours      | No information available | No information available | No information available | -    |

|               |                                       |                |             |          |   |  |
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|                      |                  |          |                          |                          |                          |   |
|----------------------|------------------|----------|--------------------------|--------------------------|--------------------------|---|
| Crustacea:           | EC <sub>50</sub> | 48 hours | No information available | No information available | No information available | - |
| Algae/aquatic plants | IC <sub>50</sub> | 72 hours | No information available | No information available | No information available | - |
| Other organisms      | -                | -        | microorganisms           | No information available | No information available | - |

**12.2. Persistence and degradability**

**Abiotic degradation**

|              | Degradation half-lives   | Method                   | Evaluation               | Note |
|--------------|--------------------------|--------------------------|--------------------------|------|
| Marine water | No information available | No information available | No information available | -    |
| Fresh water  | No information available | No information available | No information available | -    |
| Air          | No information available | No information available | No information available | -    |
| Soil         | No information available | No information available | No information available | -    |

**Biodegradation**

| % Degradation            | Time (days)              | Method                   | Evaluation               | Note                     |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| No information available | No information available | No information available | No information available | No information available |
|                          |                          |                          |                          |                          |

**12.3. Bioaccumulative potential**

**Partition coefficient: n-octanol/water (log Kow):**

| Value | Concentration            | pH | °C | Method                   | Evaluation               | Note |
|-------|--------------------------|----|----|--------------------------|--------------------------|------|
| -     | No information available | -  | -  | No information available | No information available | -    |
|       |                          |    |    |                          |                          |      |

**Bioconcentration factor (BCF)**

| Value                    | Species                  | Method                   | Evaluation               | Note                     |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| No information available | No information available | No information available | No information available | No information available |
|                          |                          |                          |                          |                          |

|               |                                       |                |             |          |   |
|---------------|---------------------------------------|----------------|-------------|----------|---|
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| Chronic ecotoxicity                              |                  |                          |                          |                          |                          |      |
|--|------------------|--------------------------|--------------------------|--------------------------|--------------------------|------|
| Value  | Dose             | Exposure time            | Species                  | Method                   | Evaluation               | Note |
| Chronic toxicity on fish                         | LC <sub>50</sub> | No information available | No information available | No information available | No information available | -    |
| Chronic toxicity on crustacea ( <i>Daphnia</i> ) | EC <sub>50</sub> | No information available | No information available | No information available | No information available | -    |

**12.4. Mobility in soil**

| Known or predicted distribution in environmental compartments: |                          |                          |                          |      |  |  |
|--|--------------------------|--------------------------|--------------------------|------|--|--|
| No information available                                       |                          |                          |                          |      |  |  |
| Surface tension:   |                          |                          |                          |      |  |  |
| Value  | °C                       | Concentration            | Method                   | Note |  |  |
| No information available                                       | No information available | No information available | No information available | -    |  |  |

**Adsorption / desorption**

| Transport  | A/D coefficient<br>Henry's constant | log Kow                  | Evaporation rate         | Method                   | Note |
|------------|-------------------------------------|--------------------------|--------------------------|--------------------------|------|
| Soil-water | No information available            | No information available | No information available | No information available | -    |
| Water-air  | No information available            | No information available | No information available | No information available | -    |
| Soil-air   | No information available            | No information available | No information available | No information available | -    |

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

|                          |  |  |  |  |  |  |
|--------------------------|--|--|--|--|--|--|
| No information available |  |  |  |  |  |  |
|--------------------------|--|--|--|--|--|--|

**12.6. Endocrine disrupting properties**

|               |                                       |                |             |            |
|---------------|---------------------------------------|----------------|-------------|------------|
| Trading name: | <b>SODIUM METABISULFITE, SOLUTION</b> |                |             |            |
| Product code: | NM-OT-X**                             | Revision date: | 21 Dec 2022 | Version: 4 |

|  |   |
|--|---|
|  | No known endocrine disrupting properties that affect the environment.   |
| 12.7.                                      | Other adverse effects   |
|  | No adverse effects are expected.  |
| <b>SECTION 13. Disposal considerations</b> |   |
| 13.1.                                      | Waste treatment methods   |
| 13.1.1.                                    | Product/Packaging disposal:   |
|  | Submit for disposal to the legal person authorized by the Ministry of Environmental and Nature Protection.  |
| 13.1.2.                                    | Waste codes/waste designations according to Law:  |
|  | No information available  |
| 13.1.3.                                    | Waste treatment – relevant information:   |
|  | No information available  |
| 13.1.4.                                    | Sewage disposal – relevant information:   |
|  | Waste must not be disposed of into the sewage system.   |
| 13.1.5.                                    | Other disposal recommendations:   |
|  | Do not dispose of the product's remains into the sewage system. Submit the remains to the collectors authorized by the ministry in charge. Do not dispose of the packaging into the sewage system. Submit the packaging to the collectors authorized by the ministry in charge. Do not dispose of in places where ignition may occur. |
| 13.1.6.                                    | Relevant Community provisions:  |
|  | -   |
| <b>SECTION 14. Transport information</b>   |   |
|  | Transporting/shipment by road (ADR)   |
| UN number:                                 | Not subject to transport regulations.   |
| UN proper shipping name:                   | -   |
| Transport hazard class(es):                | -   |
| Packing group:                             | -   |
| Environmentally hazardous:                 | -   |

|               |                                       |                |             |
|---------------|---------------------------------------|----------------|-------------|
| Trading name: | <b>SODIUM METABISULFITE, SOLUTION</b> |                |             |
| Product code: | NM-OT-X**                             | Revision date: | 21 Dec 2022 |
|               |                                       | Version:       | 4           |

|   |   |
|---|---|
| Special precautions for user:                   | -   |
| Transporting/shipment by rail (RID)             |   |
| UN number:                                      | Not subject to transport regulations.         |
| UN proper shipping name:                        | -   |
| Transport hazard class(es):                     | -   |
| Packing group:                                  | -   |
| Environmentally hazardous:                      | -   |
| Special precautions for user:                   | -   |
| Inland waterway transport (ADN)                 |   |
| UN number:                                      | Not subject to transport regulations.         |
| UN proper shipping name:                        | -   |
| Transport hazard class(es):                     | -   |
| Packing group:                                  | -   |
| Environmentally hazardous:                      | -   |
| Special precautions for user:                   | -   |
| Transporting/shipment by sea (IMDG)             |   |
| UN number:                                      | Not subject to transport regulations.         |
| UN proper shipping name:                        | -   |
| Transport hazard class(es):                     | -   |
| Packing group:                                  | -   |
| Environmentally hazardous:                      | -   |
| Special precautions for user:                   | -   |
| Transporting/shipment by air (ICAO-TI/IATA-DGR) |   |
| UN number:                                      | Not subject to transport regulations.         |
| UN proper shipping name:                        | -   |
| Transport hazard class(es):                     | -   |
| Packing group:                                  | -   |
| Environmentally hazardous:                      | -   |
| Special precautions for user:                   | -   |
| Further information:                            | The product is not subject to classification. |

| <b>SECTION 15. Regulatory information</b> |  |
|---|--|
| 15.1.                                     | Safety, health and environmental regulations/legislation specific for the substance or mixture |
|   | EU regulations   |

|               |                                       |                |             |
|---------------|---------------------------------------|----------------|-------------|
| Trading name: | <b>SODIUM METABISULFITE, SOLUTION</b> |                |             |
| Product code: | NM-OT-X**                             | Revision date: | 21 Dec 2022 |
|               |                                       | Version:       | 4           |

|       |   |
|-------|---|
|       | Authorization and/or restrictions of use  |
|       | Authorizations: -   |
|       | Restrictions: -   |
|       | <p>Other EU regulations:</p> <p>Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC;</p> <p>Directive 2004/42/CE of the European Parliament and of the Council of 21 April 2004 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC;</p> <p>Council Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work;</p> <p>Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006;</p> <p>REACH Restrictions on the manufacturing, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII);</p> |
|       | Information according 1999/13/EC about limitation of emissions of volatile organic compounds (VOC-guideline)  |
|       | <p>National legislation:</p> <p>Chemicals Act, Regulation on classification, packaging and labeling of dangerous substances, Ordinance on occupational exposure limit values and on biological limit values, Regulation on categories, types and classification of waste with a waste catalog and list of hazardous waste, Ordinance on writing Material safety data sheet, Transport of Hazardous Substances Act</p>   |
| 15.2. | Chemical safety assessment  |
|       | None  |

|                                      |                          |
|--------------------------------------|--------------------------|
| <b>SECTION 16. Other information</b> |                          |
| 16.1.                                | Indication of changes: - |

|               |                                       |                |             |            |
|---------------|---------------------------------------|----------------|-------------|------------|
| Trading name: | <b>SODIUM METABISULFITE, SOLUTION</b> |                |             |            |
| Product code: | NM-OT-X**                             | Revision date: | 21 Dec 2022 | Version: 4 |

|       |   |   |
|-------|---|---|
| 16.2. | Abbreviations and acronyms:   | <p>ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)</p> <p>IMDG: International Maritime Code for Dangerous Goods</p> <p>IATA: International Air Transport Association</p> <p>GHS: Globally Harmonised System of Classification and Labelling of Chemicals</p> <p>EINECS: European Inventory of Existing Commercial Chemical Substances</p> <p>CAS: Chemical Abstracts Service (division of the American Chemical Society)</p> <p>DNEL: Derived No-Effect Level (UK REACH)</p> <p>LC50: Lethal concentration, 50 percent</p> <p>LD50: Lethal dose, 50 percent</p> <p>PBT: Persistent, Bioaccumulative and Toxic</p> <p>vPvB: very Persistent and very Bioaccumulative</p> |
| 16.3. | Key literature references and source of data:   | -   |
| 16.4. | Classification and procedure used to derive the classification for mixture according to Regulation (EC) 1272/2008 (CLP) |   |
|       | Classification  | Classification procedure  |
|       | -   | -   |
| 16.5. | Relevant H statements (number and full text)  |   |
|       | H: 302<br>318<br>319<br>EUH031  | <p>Harmful if swallowed.</p> <p>Causes serious eye damage.</p> <p>Causes serious eye irritation.</p> <p>Contact with acids liberates toxic gas.</p>   |
| 16.6. | Training advice:  | -   |
| 16.7. | Further information:  | <p>** "X" in the product code marks different volumes (different packagings of the product)</p> <p>We are not responsible for consequences in case of failure to comply with instructions for use or improper use of the product described in this material safety data sheet.</p>  |

|   |
|---|
| <b>ANNEX: Exposure scenario resulting to Chemical safety assessment</b> |
| -   |

|               |                            |                      |                  |
|---------------|----------------------------|----------------------|------------------|
| Trading name: | <b>HCL REAGENT, P.A.S.</b> |                      |                  |
| Product code: | HCLP-OT-X**                | Date of compilation: | 14 November 2022 |
|               |                            | Version:             | 4                |

| <b>SECTION 1: Identification of the substance/mixture and of the company/undertaking</b> |  |
|--|--|
| 1.1.   | Product identifier   |
|  | Trading name: HCL REAGENT, P.A.S.  |
|  | Chemical name: -   |
|  | Catalogue number: HCLP-OT-X**  |
| 1.2.   | Relevant identified uses of the substance or mixture and uses advised against  |
|  | Uses: For use with special staining kits in histopathology.  |
|  | Uses advised against: Only the identified uses are advised.  |
|  | Reason why uses advised against: The product is intended for use only as an <i>in vitro</i> diagnostic medical device, registered at the Agency for Medicinal Products and Medical Devices and there is no reason to use it for other purposes |
| 1.3.   | Details of the supplier of the safety data sheet   |
|  | Supplier: BioGnost Ltd.  |
|  | Address: Medjugorska 59, Zagreb  |
|  | Telephone number: +385 1 2409997   |
|  | Fax no.: +385 1 2404039  |
|  | e-mail of competent person: <a href="mailto:msds@biognost.hr">msds@biognost.hr</a>   |
|  | National contact: -  |
| 1.4.   | Emergency telephone number   |
|  | National Protection and Rescue Directorate: 112  |
|  | Medical information: +385 1 2348 342   |
|  | Other information: -   |

| <b>SECTION 2. Hazards identification</b>                           |  |
|--|--|
| 2.1.   | Classification of the substance or mixture                     |
| 2.1.1.   | Classification according to Regulation (EC) No 1272/2008 (CLP) |
|  | Hazard class and category code: Hazard statements*:            |
|  | Not identified as hazardous substance. -                       |
| 2.1.2.   | Additional information   |
|  | -  |
| *For full text of Hazard- and EU Hazard-statements: see Section 16 |  |
| 2.2.   | Label elements   |
|  | Product identification: HCL REAGENT, P.A.S.                    |
|  | Identification number: -                                       |
|  | Authorization no.: -   |
|  | Hazard pictograms: -   |

|               |                            |                      |                  |          |   |
|---------------|----------------------------|----------------------|------------------|----------|---|
| Trading name: | <b>HCL REAGENT, P.A.S.</b> |                      |                  |          |   |
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|                                       |  |
|---------------------------------------|--|
| Signal word:                          | -  |
| Hazard statements:                    | -  |
| Precautionary statements:             | -  |
| Supplemental hazard information (EU): | -  |
| 2.3.                                  | <b>Other hazards</b>   |
|                                       | <b>Endocrine Disrupting Properties:</b><br>No known endocrine disrupting properties. |

**SECTION 3. Composition/information on ingredients**

| CAS/EC/ Index no.                        | REACH Registration No | Weight % content (or range) | Identification name | Classification according to Regulation (EC) No 1272/2008 (CLP) |
|--|-----------------------|-----------------------------|---------------------|--|
| 7647-01-0/<br>231-595-7/<br>017-002-00-2 | -                     | 0.7 - 1 %                   | hydrochloric acid   | Skin Corr. 1B; H314<br>STOT SE 3; H335                         |

**SECTION 4. First aid measures**

|      |  |   |
|------|--|---|
| 4.1. | <b>Description of first aid measures</b>                           |   |
|      | General notes:   | -   |
|      | Following inhalation:  | Carry the afflicted person out of the contaminated area into a well-ventilated area or out for fresh air. If breathing becomes erratic or it stops, immediately apply artificial respiration (other than mouth-to-mouth) and contact a physician. |
|      | Following skin contact:  | Remove contaminated clothing. Immediately wash with plenty of water and soap. Seek medical assistance if the symptoms of irritation remain.   |
|      | Following eye contact:   | Rinse out with plenty of water with the eyelid held wide open using clean fingers. If the symptoms remain, immediately call a physician.  |
|      | Following ingestion:   | Do not induce vomiting. Make the afflicted person drink a glass of water. If spontaneous vomiting occurs, wash the mouth with water, then make the person drink 100-200 ml of water and seek medical attention.                                   |
|      | Self-protection of the first aider:                                | Treat symptomatically.  |
| 4.2. | <b>Most important symptoms and effects, both acute and delayed</b> |   |
|      | Following inhalation:  | No information available  |
|      | Following skin contact:  | No information available  |
|      | Following eye contact:   | No information available  |

|               |                            |                      |                  |
|---------------|----------------------------|----------------------|------------------|
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|      |  |                          |
|------|--|--------------------------|
|      | Following ingestion:   | No information available |
| 4.3. | Indication of any immediate medical attention and special treatment needed |                          |
|      | -  |                          |

| <b>SECTION 5. Firefighting measures</b> |   |   |
|---|---|---|
| 5.1.                                    | Extinguishing media   |   |
|   | Suitable extinguishing media:   | Small fire - water spray, dry powder, CO <sub>2</sub><br>Large fire - water spray or alcohol-resistant foam |
|   | Unsuitable extinguishing media:   | water jet   |
| 5.2.                                    | Special hazards arising from the substance or mixture   |   |
|   | Hazardous combustion products:  | No information available  |
| 5.3.                                    | Advice for firefighters   |   |
|   | Use a self-contained open-circuit compressed air breathing apparatus and fireproof clothing.<br>Cool closed containers exposed to fire with water spray or vapor. |   |
| 5.4.                                    | Additional information  |   |
|   | Remove sources of heat and ignition.<br>Do not contaminate the environment with extinguishing media.  |   |

| <b>SECTION 6. Accidental release measures</b> |   |  |
|---|---|--|
| 6.1.  | Personal precautions, protective equipment and emergency procedures   |  |
| 6.1.1.  | For non-emergency personnel   |  |
|   | Protective equipment:   | Use personal protective equipment (see Section 8).   |
|   | Accident prevention methods:  | Evacuate members of all non-essential personnel and those members without protective equipment. Remove all sources of sparks and ignition. Do not smoke. |
|   | Emergency procedures:   | Mark the area using proper signs.  |
| 6.1.2.  | For emergency responders:   |  |
|   | Wear protective equipment (see Section 8).  |  |
| 6.2.  | Environmental precautions:  |  |
|   | Do not dispose of in sewage, drainage system and waterways. In case of large spillage contact National Protection and Rescue Directorate (NPRD) on 112. |  |
| 6.3.  | Methods and material for containment and cleaning up  |  |
| 6.3.1.  | Bundling, covering of drains; capping procedures:   | Sand or clay barriers.   |

|               |                            |                      |                  |
|---------------|----------------------------|----------------------|------------------|
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|        |   |   |
|--------|---|---|
| 6.3.2. | Cleaning up:  | Where possible, the substance can be absorbed by using inflammable material (sand, diatomaceous earth, vermiculite). Place the waste material in tightly closed impermeable containers. Store the substance in well ventilated storage rooms until disposal. Submit for disposal to the legal persons authorized by the Ministry of Environmental and Nature Protection. After disposal of the products, wash the area and involved materials with water. |
| 6.3.3. | Other information:  | -   |
| 6.4.   | Reference to other sections   |   |
|        | See Section 7 for information about secure handling.<br>See Section 8 for information about personal protective equipment.<br>See Section 13 for information about containment. |   |

|  |  |   |
|--|--|---|
| <b>SECTION 7. Handling and storage</b> |  |   |
| 7.1.                                   | Precautions for safe handling  |   |
| 7.1.1.                                 | Protection measures  |   |
|  | Measures to prevent fire:  | Keep away from sources of heat and ignition. Do not smoke.  |
|  | Measures to prevent aerosol and dust generation:   | Secure proper ventilation.  |
|  | Measures to protect the environment:   | Prevent spilling into the sewage system and waterways.  |
|  | Other measures:  | -   |
| 7.1.2.                                 | Advice on general occupational hygiene:  |   |
|  | Do not eat, drink or smoke in the workspace. Thoroughly wash hands after work and before eating. |   |
| 7.2.                                   | Conditions for safe storage, including any incompatibilities                                     |   |
|  | Technical measures and storage conditions:   | Keep in tightly closed and upright set containers in a well ventilated storage rooms, and away from sources of heat, sunlight, and other incompatible substances.           |
|  | Packaging materials:   | Manufacturer's original packaging.  |
|  | Requirements for storage rooms and vessels:  | Keep away from food and drink. Keep the containers tightly closed.  |
|  | Advices for storage equipment:   | The storage must be made of hard material; floors must be resistant to chemicals. There must be no drain that directly leads into sewage system. Secure proper ventilation. |
|  | Further information on storage conditions:   | Do not place the unused material in the storage room and do not use empty containers for storing other chemicals. Do not store with incompatible materials (see Section 9). |
| 7.3.                                   | Specific end use(s)  |   |

|               |                            |                      |                  |          |   |
|---------------|----------------------------|----------------------|------------------|----------|---|
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|                                       |   |
|---------------------------------------|---|
| Recommendations:                      | - |
| Industrial sector specific solutions: | - |

**SECTION 8. Exposure controls/personal protection**

**8.1. Control parameters**

| Substance | CAS No | Occupational exposure limit values/short term values |                   | Biological limit values  |
|-----------|--------|--|-------------------|--------------------------|
|           |        | ppm  | mg/m <sup>3</sup> |                          |
| -         | -      | -  | -                 | No information available |

|                 |   |
|-----------------|---|
| Substance name: | - |
| EC No:          | - |
| CAS No:         | - |

**DNEL**

**Industrial**

| Route of exposure: | Acute effect local | Acute effect systemic | Chronic effect local | Chronic effect systemic |
|--------------------|--------------------|-----------------------|----------------------|-------------------------|
| Oral               | -                  | -                     | -                    | -                       |
| Inhalation         | -                  | -                     | -                    | -                       |
| Dermal             | -                  | -                     | -                    | -                       |

Critical physical parameters: solubility, flammability, corrosivity: -

**Consumer**

| Route of exposure: | Acute effect local | Acute effect systemic | Chronic effect local | Chronic effect systemic |
|--------------------|--------------------|-----------------------|----------------------|-------------------------|
| Oral               | -                  | -                     | -                    | -                       |
| Inhalation         | -                  | -                     | -                    | -                       |
| Dermal             | -                  | -                     | -                    | -                       |

**PNEC**

| Environmental protection target    | PNEC                     |
|------------------------------------|--------------------------|
| Fresh water                        | No information available |
| Freshwater sediments               | No information available |
| Marine water                       | No information available |
| Marine sediments                   | No information available |
| Food chain                         | No information available |
| Microorganisms in sewage treatment | No information available |
| Soil (agricultural)                | No information available |

|               |                            |                      |                  |          |   |
|---------------|----------------------------|----------------------|------------------|----------|---|
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|          |  |  |
|----------|--|--|
| Air      | No information available   |  |
| 8.2.     | Exposure controls  |  |
| 8.2.1.   | Appropriate engineering controls   |  |
|          | Substance/mixture related measures to prevent exposure during identified uses: | Use the product in well ventilated rooms. Use personal protective equipment. Do not eat, drink or smoke in the workspace.  |
|          | Structural measures to prevent exposure:                                       | No information available   |
|          | Organisational measures to prevent exposure:                                   | Organization of work in order to reduce other worker's influence during work process.  |
|          | Technical measures to prevent exposure:  | Secure proper workspace ventilation in order to keep concentration levels in air below permitted levels.   |
| 8.2.2.   | Personal protection equipment  |  |
| 8.2.2.1. | Eye and face protection:   | Safety glasses that stick to face (preventing splashing) (EN 166) or visor.  |
| 8.2.2.2. | Skin protection  |  |
|          | Hand protection:   | Protective gloves must be according to the EU Directive 2016/425/EEC and standard EN 374.<br>Glove material: nitrile rubber<br>Glove thickness: ≥0.50 mm<br>Break through time: >480 min             |
|          | Other skin protection:   | Wear antistatic clothing made of natural fibers (such as cotton) with long sleeves (EN 13034), and shoes that cover the entire foot (EN 10335).  |
| 8.2.2.3. | Respiratory protection:  | Protective full face mask (EN 136) or half mask (EN 140) equipped with a filter for organic vapors, type "A" (boiling point >65°C) according to EN 14387) used when concentration levels exceed GVI. |
| 8.2.2.4. | Thermal hazards:   | No information available   |
| 8.2.3.   | Environmental exposure controls  |  |
|          | Substance/mixture related measures to prevent exposure:                        | See Section 6  |
|          | Structural measures to prevent exposure:                                       | Use modern equipment.  |
|          | Organisational measures to prevent exposure:                                   | Adapt the work process to the required working conditions of the workplace.  |
|          | Technical measures to prevent exposure:  | See Section 6  |

**SECTION 9. Physical and chemical properties**

|               |                            |                      |                  |          |   |
|---------------|----------------------------|----------------------|------------------|----------|---|
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| 9.1. Information on basic physical and chemical properties |   |                          |                          |
|--|---|--------------------------|--------------------------|
|  |   | Value                    | Method                   |
|  | Physical state:   | liquid                   | No information available |
|  | Color:  | colourless               | No information available |
|  | Odour/odour threshold:                                    | no information available | No information available |
|  | Melting point / freezing point:                           | No information available | No information available |
|  | Boiling point or initial boiling point and boiling range: | No information available | No information available |
|  | Flammability:   | No information available | No information available |
|  | Lower and upper explosion limit:                          | No information available | No information available |
|  | Flash point:  | No information available | No information available |
|  | Auto-ignition temperature:                                | No information available | No information available |
|  | Decomposition temperature:                                | No information available | No information available |
|  | pH:   | No information available | No information available |
|  | Kinematic viscosity:                                      | No information available | No information available |
|  | Solubility:   | No information available | No information available |
|  | Partition coefficient n-octanol/water (log value):        | No information available | No information available |
|  | Vapour pressure:  | No information available | No information available |
|  | Density and/or relative density                           | No information available | No information available |
|  | Relative vapour density:                                  | No information available | No information available |
|  | Particle characteristics:                                 | No information available | No information available |
| 9.2. Other information                                     |   |                          |                          |
|  | -   |                          |                          |

| SECTION 10.: Stability and reactivity |                                     |  |
|---------------------------------------|-------------------------------------|--|
| 10.1.                                 | Reactivity:                         | See subsections 10.3 through 10.5.   |
| 10.2.                                 | Chemical stability:                 | The product is chemically stable under standard ambient conditions of storing and using. |
| 10.3.                                 | Possibility of hazardous reactions: | No information available.  |
| 10.4.                                 | Conditions to avoid:                | No information available.  |
| 10.5.                                 | Incompatible materials:             | No information available.  |
| 10.6.                                 | Hazardous decomposition products:   | No information available.  |

| SECTION 11. Toxicological information |  |
|---------------------------------------|--|
| 11.1.                                 | Information on hazard classes as defined in Regulation (EC) No 1272/2008 |

|               |                            |                      |                  |          |   |
|---------------|----------------------------|----------------------|------------------|----------|---|
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|                 |  |  |  |  |  |
|-----------------|--|--|--|--|--|
| Acute toxicity: |  |  |  |  |  |
|-----------------|--|--|--|--|--|

| Route of exposure:   | Method                   | Species | Effective Dose<br>LD <sub>50</sub> /LC <sub>50</sub> or<br>ATE <sub>mixture</sub> | Exposure time | Results |
|----------------------|--------------------------|---------|---|---------------|---------|
| Oral exposure:       | No information available | -       | LD <sub>50</sub>  | -             | -       |
| Dermal exposure:     | No information available | -       | LD <sub>50</sub>  | -             | -       |
| Inhalation exposure: | No information available | -       | LC <sub>50</sub>  | -             | -       |

|   |  |  |  |
|---|--|--|--|
| Specific target organ toxicity – single exposure (STOT SE): |  |  |  |
|---|--|--|--|

|                      | Specific effects         | Target organ             | Note |
|----------------------|--------------------------|--------------------------|------|
| Oral exposure:       | No information available | No information available | -    |
| Dermal exposure:     | No information available | No information available | -    |
| Inhalation exposure: | No information available | No information available | -    |

|                    |                          |
|--------------------|--------------------------|
| Aspiration hazard: | No information available |
|--------------------|--------------------------|

|                           |  |  |  |  |  |
|---------------------------|--|--|--|--|--|
| Irritation and corrosion: |  |  |  |  |  |
|---------------------------|--|--|--|--|--|

|                  | Exposure time | Species | Evaluation | Method | Note |
|------------------|---------------|---------|------------|--------|------|
| Skin irritation: | -             | -       | -          | -      | -    |
| Eye irritation:  | -             | -       | -          | -      | -    |

|               |  |
|---------------|--|
| Sensitization |  |
|---------------|--|

|                      |                          |
|----------------------|--------------------------|
| Dermal exposure:     | No information available |
| Inhalation exposure: | No information available |

|  |  |
|--|--|
| Symptoms related to the physical, chemical and toxicological characteristics |  |
|--|--|

|                      |                          |
|----------------------|--------------------------|
| Oral exposure:       | No information available |
| Dermal exposure:     | No information available |
| Inhalation exposure: | No information available |
| Eye exposure:        | No information available |

|  |  |
|--|--|
| Repeated dose toxicity (subacute, subchronic, chronic) |  |
|--|--|

|               |                            |                      |                  |          |   |
|---------------|----------------------------|----------------------|------------------|----------|---|
| Trading name: | <b>HCL REAGENT, P.A.S.</b> |                      |                  |          |   |
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|                       | Dose                     | Exposure time            | Species                  | Method                   | Evaluation               | Note |
|-----------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|------|
| Subacute oral         | No information available | No information available | No information available | No information available | No information available | -    |
| Subacute dermal       | No information available | No information available | No information available | No information available | No information available | -    |
| Subacute inhalation   | No information available | No information available | No information available | No information available | No information available | -    |
| Subchronic oral       | No information available | No information available | No information available | No information available | No information available | -    |
| Subchronic dermal     | No information available | No information available | No information available | No information available | No information available | -    |
| Subchronic inhalation | No information available | No information available | No information available | No information available | No information available | -    |
| Chronic oral          | No information available | No information available | No information available | No information available | No information available | -    |
| Chronic dermal        | No information available | No information available | No information available | No information available | No information available | -    |
| Chronic inhalation    | No information available | No information available | No information available | No information available | No information available | -    |

Specific target organ toxicity – repeated exposure (STOT RE):

|                       | Specific effects         | Target organ             | Note |
|-----------------------|--------------------------|--------------------------|------|
| Subacute oral         | No information available | No information available | -    |
| Subacute dermal       | No information available | No information available | -    |
| Subacute inhalation   | No information available | No information available | -    |
| Subchronic oral       | No information available | No information available | -    |
| Subchronic dermal     | No information available | No information available | -    |
| Subchronic inhalation | No information available | No information available | -    |
| Chronic oral          | No information available | No information available | -    |
| Chronic dermal        | No information available | No information available | -    |

|               |                            |                      |                  |          |   |
|---------------|----------------------------|----------------------|------------------|----------|---|
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|  |   |                          |   |
|--|---|--------------------------|---|
| Chronic inhalation   | No information available  | No information available | - |
| CMR effects (carcinogenicity; mutagenicity; reproductive toxicity) |   |                          |   |
| Carcinogenicity:   | Based on available data, the classification criteria are not met. |                          |   |
| Mutagenicity <i>in-vitro</i> :                                     | Based on available data, the classification criteria are not met. |                          |   |
| Genotoxicity:  | Based on available data, the classification criteria are not met. |                          |   |
| Mutagenicity <i>in-vivo</i> :                                      | Based on available data, the classification criteria are not met. |                          |   |
| Germ cell mutagenicity:  | Based on available data, the classification criteria are not met. |                          |   |
| Reproductive toxicity:   | Based on available data, the classification criteria are not met. |                          |   |
| Summary of evaluation of the CMR properties: -                     |   |                          |   |
| <b>11.2. Information on other hazards:</b>                         |   |                          |   |
| <b>11.2.1. Endocrine disrupting properties:</b>                    |   |                          |   |
| No known endocrine disrupting properties that affect human health. |   |                          |   |
| <b>11.2.2. Other informations:</b>                                 |   |                          |   |
| -  |   |                          |   |

| <b>SECTION 12. Ecological information</b> |                  |               |                          |                          |                          |      |
|---|------------------|---------------|--------------------------|--------------------------|--------------------------|------|
| <b>12.1. Toxicity</b>                     |                  |               |                          |                          |                          |      |
| Acute toxicity                            | Dose             | Exposure time | Species                  | Method                   | Evaluation               | Note |
| Fish                                      | LC <sub>50</sub> | 96 hours      | No information available | No information available | -                        | -    |
| Crustacea:                                | EC <sub>50</sub> | 48 hours      | No information available | No information available | -                        | -    |
| Algae/aquatic plants                      | IC <sub>50</sub> | 8 days        | No information available | No information available | -                        | -    |
| Microorganisms                            | LC <sub>50</sub> | 72 hours      | -                        | -                        | -                        | -    |
| Chronic (long-term) toxicity              | Dose             | Exposure time | Species                  | Method                   | Evaluation               | Note |
| Fish                                      | LC <sub>50</sub> | 96 hours      | No information available | No information available | No information available | -    |
| Crustacea:                                | EC <sub>50</sub> | 48 hours      | No information available | No information available | No information available | -    |

|               |                            |                      |                  |          |   |
|---------------|----------------------------|----------------------|------------------|----------|---|
| Trading name: | <b>HCL REAGENT, P.A.S.</b> |                      |                  |          |   |
| Product code: | HCLP-OT-X**                | Date of compilation: | 14 November 2022 | Version: | 4 |

|                      |                  |          |                          |                          |                          |   |
|----------------------|------------------|----------|--------------------------|--------------------------|--------------------------|---|
| Algae/aquatic plants | IC <sub>50</sub> | 72 hours | No information available | No information available | No information available | - |
| Other organisms      | -                | -        | -                        | -                        | -                        | - |

**12.2. Persistence and degradability**

|                     |                          |                          |                          |      |
|---------------------|--------------------------|--------------------------|--------------------------|------|
| Abiotic degradation |                          |                          |                          |      |
|                     | Degradation half-lives   | Method                   | Evaluation               | Note |
| Marine water        | No information available | No information available | No information available | -    |
| Fresh water         | No information available | No information available | No information available | -    |
| Air                 | No information available | No information available | No information available | -    |
| Soil                | No information available | No information available | No information available | -    |

Biodegradation

|                          |                          |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| % Degradation            | Time (days)              | Method                   | Evaluation               | Note                     |
| No information available | No information available | No information available | No information available | No information available |
|                          |                          |                          |                          |                          |

**12.3. Bioaccumulative potential**

Octanol-water partition coefficient (log K<sub>ow</sub>)

|       |                          |    |    |                          |                          |      |
|-------|--------------------------|----|----|--------------------------|--------------------------|------|
| Value | Concentration            | pH | °C | Method                   | Evaluation               | Note |
| -     | No information available | -  | -  | No information available | No information available | -    |
|       |                          |    |    |                          |                          |      |

Bioconcentration factor (BCF)

|                          |                          |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Value                    | Species                  | Method                   | Evaluation               | Note                     |
| No information available | No information available | No information available | No information available | No information available |
|                          |                          |                          |                          |                          |

Chronic ecotoxicity

|               |                            |                      |                  |          |   |  |
|---------------|----------------------------|----------------------|------------------|----------|---|--|
| Trading name: | <b>HCL REAGENT, P.A.S.</b> |                      |                  |          |   |  |
| Product code: | HCLP-OT-X**                | Date of compilation: | 14 November 2022 | Version: | 4 |  |

| Value  | Dose             | Exposure time            | Species                  | Method                   | Evaluation               | Note |
|--|------------------|--------------------------|--------------------------|--------------------------|--------------------------|------|
| Chronic toxicity on fish                         | LC <sub>50</sub> | No information available | No information available | No information available | No information available | -    |
| Chronic toxicity on crustacea ( <i>Daphnia</i> ) | EC <sub>50</sub> | No information available | No information available | No information available | No information available | -    |

**12.4. Mobility in soil**

|  |                          |                          |                          |                          |      |  |
|--|--------------------------|--------------------------|--------------------------|--------------------------|------|--|
| Known or predicted distribution in environmental compartments: |                          |                          |                          |                          |      |  |
| No information available                                       |                          |                          |                          |                          |      |  |
| Surface tension:   |                          |                          |                          |                          |      |  |
|  | Value                    | °C                       | Concentration            | Method                   | Note |  |
|  | No information available | No information available | No information available | No information available | -    |  |

**Adsorption / desorption**

| Transport  | A/D coefficient<br>Henry's constant |                       | log Kow                  | Evaporation rate         | Method                   | Note |
|------------|-------------------------------------|-----------------------|--------------------------|--------------------------|--------------------------|------|
| Soil-water | No information available            | information available | No information available | No information available | No information available | -    |
| Water-air  | No information available            | information available | No information available | No information available | No information available | -    |
| Soil-air   | No information available            | information available | No information available | No information available | No information available | -    |

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

|                          |  |  |  |  |  |  |
|--------------------------|--|--|--|--|--|--|
| No information available |  |  |  |  |  |  |
|--------------------------|--|--|--|--|--|--|

**12.6. Endocrine disrupting properties**

|   |  |  |  |  |  |  |
|---|--|--|--|--|--|--|
| No known endocrine disrupting properties that affect the environment. |  |  |  |  |  |  |
|---|--|--|--|--|--|--|

**12.7. Other adverse effects**

|                                  |  |  |  |  |  |  |
|----------------------------------|--|--|--|--|--|--|
| No adverse effects are expected. |  |  |  |  |  |  |
|----------------------------------|--|--|--|--|--|--|

|               |                            |                      |                  |
|---------------|----------------------------|----------------------|------------------|
| Trading name: | <b>HCL REAGENT, P.A.S.</b> |                      |                  |
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|  |  |
|--|--|
| <b>SECTION 13. Disposal considerations</b> |  |
| 13.1.                                      | Waste treatment methods  |
| 13.1.1.                                    | Product/Packaging disposal:<br>Submit for disposal to the legal person authorized by the Ministry of Environmental and Nature Protection.  |
| 13.1.2.                                    | Waste codes/waste designations according to Law:<br>No information available   |
| 13.1.3.                                    | Waste treatment – relevant information:<br>No information available  |
| 13.1.4.                                    | Sewage disposal – relevant information:<br>Waste must not be disposed of into the sewage system.   |
| 13.1.5.                                    | Other disposal recommendations:<br>Do not dispose of the product's remains into the sewage system. Submit the remains to the collectors authorized by the ministry in charge. Do not dispose of the packaging into the sewage system. Submit the packaging to the collectors authorized by the ministry in charge. Do not dispose of in places where ignition may occur. |
| 13.1.6.                                    | Relevant Community provisions:<br>-  |
| <b>SECTION 14. Transport information</b>   |  |
| Transporting/shipment by road (ADR)        |  |
| UN number:                                 | Not subject to transport regulations.  |
| UN proper shipping name:                   | -  |
| Transport hazard class(es):                | -  |
| Packing group:                             | -  |
| Environmentally hazardous:                 | -  |
| Special precautions for user:              | -  |
| Transporting/shipment by rail (RID)        |  |
| UN number:                                 | Not subject to transport regulations.  |
| UN proper shipping name:                   | -  |

|               |                            |                      |                  |
|---------------|----------------------------|----------------------|------------------|
| Trading name: | <b>HCL REAGENT, P.A.S.</b> |                      |                  |
| Product code: | HCLP-OT-X**                | Date of compilation: | 14 November 2022 |
|               |                            | Version:             | 4                |

|   |   |
|---|---|
| Transport hazard class(es):                     | -   |
| Packing group:                                  | -   |
| Environmentally hazardous:                      | -   |
| Special precautions for user:                   | -   |
| Inland waterway transport (ADN)                 |   |
| UN number:                                      | Not subject to transport regulations.         |
| UN proper shipping name:                        | -   |
| Transport hazard class(es):                     | -   |
| Packing group:                                  | -   |
| Environmentally hazardous:                      | -   |
| Special precautions for user:                   | -   |
| Transporting/shipment by sea (IMDG)             |   |
| UN number:                                      | Not subject to transport regulations.         |
| UN proper shipping name:                        | -   |
| Transport hazard class(es):                     | -   |
| Packing group:                                  | -   |
| Environmentally hazardous:                      | -   |
| Special precautions for user:                   | -   |
| Transporting/shipment by air (ICAO-TI/IATA-DGR) |   |
| UN number:                                      | Not subject to transport regulations.         |
| UN proper shipping name:                        | -   |
| Transport hazard class(es):                     | -   |
| Packing group:                                  | -   |
| Environmentally hazardous:                      | -   |
| Special precautions for user:                   | -   |
| Further information:                            | The product is not subject to classification. |

| <b>SECTION 15. Regulatory information</b> |  |
|---|--|
| 15.1.                                     | Safety, health and environmental regulations/legislation specific for the substance or mixture |
|   | EU regulations   |
|   | Authorization and/or restrictions of use   |
|   | Authorizations: -  |
|   | Restrictions: -  |

|               |                            |                      |                  |          |   |
|---------------|----------------------------|----------------------|------------------|----------|---|
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|  |  |
|--|--|
| Other EU regulations:  | <p>Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC;</p> <p>Directive 2004/42/CE of the European Parliament and of the Council of 21 April 2004 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC;</p> <p>Council Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work;</p> <p>Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006;</p> <p>REACH Restrictions on the manufacturing, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII);</p> |
| Information according 1999/13/EC about limitation of emissions of volatile organic compounds (VOC-guideline) |  |
| National legislation:  | <p>Chemicals Act, Regulation on classification, packaging and labeling of dangerous substances, Ordinance on occupational exposure limit values and on biological limit values, Regulation on categories, types and classification of waste with a waste catalog and list of hazardous waste, Ordinance on writing Material safety data sheet, Transport of Hazardous Substances Act</p>   |
| <b>15.2. Chemical safety assessment</b>  |  |
|  | None   |

| <b>SECTION 16. Other information</b>  |  |     |                                   |      |   |                  |                  |                  |                           |         |  |
|---|--|-----|-----------------------------------|------|---|------------------|------------------|------------------|---------------------------|---------|--|
| 16.1. Indication of changes:  | -  |     |                                   |      |   |                  |                  |                  |                           |         |  |
| 16.2. Abbreviations and acronyms:   | <table> <tr> <td>PBT</td> <td>Stable, bioaccumulative and toxic</td> </tr> <tr> <td>vPvB</td> <td>Strongly stable and strongly bioaccumulative.</td> </tr> <tr> <td>LD<sub>50</sub></td> <td>Lethal dose, 50%</td> </tr> <tr> <td>LC<sub>50</sub></td> <td>Lethal concentration, 50%</td> </tr> <tr> <td>STOT-SE</td> <td>Specific target organ toxicity - single exposure</td> </tr> </table> | PBT | Stable, bioaccumulative and toxic | vPvB | Strongly stable and strongly bioaccumulative. | LD <sub>50</sub> | Lethal dose, 50% | LC <sub>50</sub> | Lethal concentration, 50% | STOT-SE | Specific target organ toxicity - single exposure |
| PBT   | Stable, bioaccumulative and toxic  |     |                                   |      |   |                  |                  |                  |                           |         |  |
| vPvB  | Strongly stable and strongly bioaccumulative.  |     |                                   |      |   |                  |                  |                  |                           |         |  |
| LD <sub>50</sub>  | Lethal dose, 50%   |     |                                   |      |   |                  |                  |                  |                           |         |  |
| LC <sub>50</sub>  | Lethal concentration, 50%  |     |                                   |      |   |                  |                  |                  |                           |         |  |
| STOT-SE   | Specific target organ toxicity - single exposure   |     |                                   |      |   |                  |                  |                  |                           |         |  |
| 16.3. Key literature references and source of data:   | -  |     |                                   |      |   |                  |                  |                  |                           |         |  |
| 16.4. Classification and procedure used to derive the classification for mixture according to Regulation (EC) 1272/2008 (CLP) |  |     |                                   |      |   |                  |                  |                  |                           |         |  |
| Classification  | Classification procedure   |     |                                   |      |   |                  |                  |                  |                           |         |  |
| -   | -  |     |                                   |      |   |                  |                  |                  |                           |         |  |

|               |                            |                      |                  |
|---------------|----------------------------|----------------------|------------------|
| Trading name: | <b>HCL REAGENT, P.A.S.</b> |                      |                  |
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|       |  |   |
|-------|--|---|
| 16.5. | Relevant H statements (number and full text) |   |
|       | H: 314<br>335                                | Causes severe skin burns and eye damage.<br>May cause respiratory irritation.   |
| 16.6. | Training advice:                             | -   |
| 16.7. | Further information:                         | ** "X" in the product code marks different volumes (different packagings of the product)<br>We are not responsible for consequences in case of failure to comply with instructions for use or improper use of the product described in this material safety data sheet. |


|   |  |
|---|--|
| <b>ANNEX: Exposure scenario resulting to Chemical safety assessment</b> |  |
| -   |  |

|               |                       |                |             |
|---------------|-----------------------|----------------|-------------|
| Trading name: | <b>HEMATOXYLIN ML</b> |                |             |
| Product code: | HEMML-OT-X**          | Revision date: | 27.03.2023. |
|               |                       | Version:       | 9           |

| <b>SECTION 1: Identification of the substance/mixture and of the company/undertaking</b> |  |
|--|--|
| 1.1.   | Product identifier   |
|  | Trading name: HEMATOXYLIN ML   |
|  | Chemical name: -   |
|  | Catalogue number: HEMML-OT-X**   |
| 1.2.   | Relevant identified uses of the substance or mixture and uses advised against  |
|  | Uses: Modified hematoxylin acc. to Mayer-Lillie for nuclear staining.  |
|  | Uses advised against: Only the identified uses are advised.  |
|  | Reason why uses advised against: The product is intended for use only as an <i>in vitro</i> diagnostic medical device, registered at the Agency for Medicinal Products and Medical Devices and there is no reason to use it for other purposes |
| 1.3.   | Details of the supplier of the safety data sheet   |
|  | Supplier: BioGnost Ltd.  |
|  | Address: Medjugorska 59, Zagreb  |
|  | Telephone number: +385 1 2409997   |
|  | Fax no.: +385 1 2404039  |
|  | e-mail of competent person: <a href="mailto:msds@biognost.hr">msds@biognost.hr</a>   |
|  | National contact: -  |
| 1.4.   | Emergency telephone number   |
|  | National Protection and Rescue Directorate: 112  |
|  | Medical information: +385 1 2348 342   |
|  | Other information: -   |

| <b>SECTION 2. Hazards identification</b>                           |  |                                 |                     |            |      |
|--|--|---------------------------------|---------------------|------------|------|
| 2.1.   | Classification of the substance or mixture   |                                 |                     |            |      |
| 2.1.1.   | Classification according to Regulation (EC) No 1272/2008 (CLP)   |                                 |                     |            |      |
|  | <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; padding: 5px;">Hazard class and category code:</td> <td style="padding: 5px;">Hazard statements*:</td> </tr> <tr> <td style="padding: 5px;">Eye Irr. 2</td> <td style="padding: 5px;">H319</td> </tr> </table> | Hazard class and category code: | Hazard statements*: | Eye Irr. 2 | H319 |
| Hazard class and category code:                                    | Hazard statements*:  |                                 |                     |            |      |
| Eye Irr. 2   | H319   |                                 |                     |            |      |
| 2.1.2.   | Additional information   |                                 |                     |            |      |
|  | -  |                                 |                     |            |      |
| *For full text of Hazard- and EU Hazard-statements: see Section 16 |  |                                 |                     |            |      |
| 2.2.   | Label elements   |                                 |                     |            |      |
|  | Product identification: HEMATOXYLIN ML   |                                 |                     |            |      |
|  | Identification number: -   |                                 |                     |            |      |
|  | Authorization no.: -   |                                 |                     |            |      |

|               |                       |                |             |          |   |
|---------------|-----------------------|----------------|-------------|----------|---|
| Trading name: | <b>HEMATOXYLIN ML</b> |                |             |          |   |
| Product code: | HEMML-OT-X**          | Revision date: | 27.03.2023. | Version: | 9 |

|   |   |
|---|---|
| Hazard pictograms:  |    |
|   | GHS07   |
| Signal word:  | Warning   |
| Hazard statements:  | H319 Causes serious eye irritation.   |
| Precautionary statements:   | P280 Wear protective gloves/protective clothing/eye protection/face protection.<br>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. |
| Supplemental hazard information (EU):   | -   |
| 2.3.  | Other hazards   |
| <p><b>Endocrine Disrupting Properties:</b><br/>         No known endocrine disrupting properties</p> <p><b>Results of PBT and vPvB assessment:</b> According to the results of its assessment, this substance is not a PBT or a vPvB.</p> |   |

| SECTION 3. Composition/information on ingredients |                          |                                |                                     |   |
|---|--------------------------|--------------------------------|-------------------------------------|---|
| CAS/<br>EC/<br>Index no.                          | REACH<br>Registration No | Weight % content<br>(or range) | Identification<br>name              | Classification according to Regulation<br>(EC) No 1272/2008 (CLP) |
| 7784-31-8/<br>616-524-3/<br>-                     | -                        | 3 – 4 %                        | aluminum sulfate<br>octadecahydrate | Eye Dam. 1; H318  |

| SECTION 4. First aid measures |   |
|-------------------------------|---|
| 4.1.                          | Description of first aid measures   |
|                               | General notes: Take off contaminated clothing.  |
|                               | Following inhalation: Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.  |
|                               | Following skin contact: Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.   |
|                               | Following eye contact: In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. |
|                               | Following ingestion: Rinse mouth. Call a doctor if you feel unwell.   |

|               |                       |                |             |
|---------------|-----------------------|----------------|-------------|
| Trading name: | <b>HEMATOXYLIN ML</b> |                |             |
| Product code: | HEMML-OT-X**          | Revision date: | 27.03.2023. |
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|      |  |  |
|------|--|--|
|      | Self-protection of the first aider:  | Treat symptomatically.                             |
| 4.2. | Most important symptoms and effects, both acute and delayed                |  |
|      | Following inhalation:  | No information available                           |
|      | Following skin contact:  | No information available                           |
|      | Following eye contact:   | Risk of blindness, Risk of serious damage to eyes. |
|      | Following ingestion:   | No information available                           |
| 4.3. | Indication of any immediate medical attention and special treatment needed |  |
|      | -  |  |

|   |  |   |
|---|--|---|
| <b>SECTION 5. Firefighting measures</b> |  |   |
| 5.1.                                    | Extinguishing media  |   |
|   | Suitable extinguishing media:  | Small fire - water spray, dry powder, foam, CO <sub>2</sub><br>Large fire - water spray or alcohol-resistant foam |
|   | Unsuitable extinguishing media:  | water jet   |
| 5.2.                                    | Special hazards arising from the substance or mixture  |   |
|   | Hazardous combustion products:   | No information available  |
| 5.3.                                    | Advice for firefighters  |   |
|   | Do not enter fire area without proper protective equipment, including respiratory protection.        |   |
| 5.4.                                    | Additional information   |   |
|   | Remove sources of heat and ignition.<br>Do not contaminate the environment with extinguishing media. |   |

|   |   |  |
|---|---|--|
| <b>SECTION 6. Accidental release measures</b> |   |  |
| 6.1.  | Personal precautions, protective equipment and emergency procedures   |  |
| 6.1.1.  | For non-emergency personnel   |  |
|   | Protective equipment:   | Use personal protective equipment (see Section 8).   |
|   | Accident prevention methods:  | Evacuate members of all non-essential personnel and those members without protective equipment. Remove all sources of sparks and ignition. Do not smoke. |
|   | Emergency procedures:   | Mark the area using proper signs.  |
| 6.1.2.  | For emergency responders:   |  |
|   | Do not enter fire area without proper protective equipment, including respiratory protection.   |  |
| 6.2.  | Environmental precautions:  |  |
|   | Do not dispose of in sewage, drainage system and waterways. In case of large spillage contact National Protection and Rescue Directorate (NPRD) on 112. |  |
| 6.3.  | Methods and material for containment and cleaning up  |  |

|               |                       |                |             |            |
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|--------|---|---|
| 6.3.1. | Bundling, covering of drains; capping procedures:   | Covering of drains. Take up mechanically.   |
| 6.3.2. | Cleaning up:  | Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. On land, sweep or shovel into suitable containers. Submit for disposal to the legal persons authorized by the Ministry of Environmental and Nature Protection. After disposal of the products, wash the area and involved materials with water. |
| 6.3.3. | Other information:  | Place in appropriate containers for disposal.   |
| 6.4.   | Reference to other sections   |   |
|        | See Section 7 for information about secure handling.<br>See Section 8 for information about personal protective equipment.<br>See Section 13 for information about containment. |   |

|  |  |   |
|--|--|---|
| <b>SECTION 7. Handling and storage</b> |  |   |
| 7.1.                                   | Precautions for safe handling  |   |
| 7.1.1.                                 | Protection measures  |   |
|  | Measures to prevent fire:  | Keep away from sources of heat and ignition. Do not smoke.  |
|  | Measures to prevent aerosol and dust generation:   | Secure proper ventilation.  |
|  | Measures to protect the environment:   | Prevent spilling into the sewage system and waterways.  |
|  | Other measures:  | -   |
| 7.1.2.                                 | Advice on general occupational hygiene:  |   |
|  | Do not eat, drink or smoke in the workspace. Thoroughly wash hands after work and before eating. |   |
| 7.2.                                   | Conditions for safe storage, including any incompatibilities                                     |   |
|  | Technical measures and storage conditions:   | Keep in tightly closed and upright set containers in a well ventilated place.   |
|  | Packaging materials:   | Manufacturer's original packaging.  |
|  | Requirements for storage rooms and vessels:  | Keep away from food and drink. Keep the containers tightly closed.  |
|  | Advices for storage equipment:   | The storage must be made of hard material; floors must be resistant to chemicals. There must be no drain that directly leads into sewage system. Secure proper ventilation. |
|  | Further information on storage conditions:   | Do not place the unused material in the storage room and do not use empty containers for storing other chemicals. Do not store with incompatible materials (see Section 9). |
| 7.3.                                   | Specific end use(s)  |   |

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|                                       |   |
|---------------------------------------|---|
| Recommendations:                      | - |
| Industrial sector specific solutions: | - |

**SECTION 8. Exposure controls/personal protection**

**8.1. Control parameters**

| Substance | CAS No | Occupational exposure limit values/short term values |                   | Biological limit values  |
|-----------|--------|--|-------------------|--------------------------|
|           |        | ppm  | mg/m <sup>3</sup> |                          |
| -         | -      | -  | -                 | No information available |

|                 |                                    |         |           |  |
|-----------------|------------------------------------|---------|-----------|--|
| Substance name: | Aluminium sulphate octadecahydrate |         |           |  |
| EC No:          | 233-135-0                          | CAS No: | 7784-31-8 |  |

**DNEL**

**Industrial**

| Route of exposure: | Acute effect local | Acute effect systemic | Chronic effect local | Chronic effect systemic |
|--------------------|--------------------|-----------------------|----------------------|-------------------------|
| Oral               | -                  | -                     | -                    | -                       |
| Inhalation         | -                  | -                     | -                    | 13,4 mg/m <sup>3</sup>  |
| Dermal             | -                  | -                     | -                    | 3,8 mg/kg bw/day        |

Critical physical parameters: solubility, flammability, corrosivity: -

**Consumer**

| Route of exposure: | Acute effect local | Acute effect systemic | Chronic effect local | Chronic effect systemic |
|--------------------|--------------------|-----------------------|----------------------|-------------------------|
| Oral               | -                  | -                     | -                    | -                       |
| Inhalation         | -                  | -                     | -                    | -                       |
| Dermal             | -                  | -                     | -                    | -                       |

**PNEC**

| Environmental protection target    | PNEC                     |
|------------------------------------|--------------------------|
| Fresh water                        | No information available |
| Freshwater sediments               | No information available |
| Marine water                       | No information available |
| Marine sediments                   | No information available |
| Food chain                         | No information available |
| Microorganisms in sewage treatment | No information available |
| Soil (agricultural)                | No information available |

|               |                       |                |             |          |   |
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|   |  |  |
|---|--|--|
| Air   | No information available   |  |
| <b>8.2. Exposure controls</b>                 |  |  |
| <b>8.2.1. Engineering measures</b>            |  |  |
|   | Substance/mixture related measures to prevent exposure during identified uses: | Use the product in well ventilated rooms. Use personal protective equipment. Do not eat, drink or smoke in the workspace.  |
|   | Structural measures to prevent exposure:                                       | No information available   |
|   | Organisational measures to prevent exposure:                                   | Organization of work in order to reduce other worker's influence during work process.  |
|   | Technical measures to prevent exposure:  | Secure proper workspace ventilation in order to keep concentration levels in air below permitted levels.   |
| <b>8.2.2. Personal protection equipment</b>   |  |  |
| 8.2.2.1.                                      | Eye and face protection:   | Safety glasses that stick to face (preventing splashing) (EN 166) or visor.  |
| 8.2.2.2.                                      | <b>Skin protection</b>   |  |
|   | Hand protection:   | Chemical protection gloves are suitable, which are tested according to EN 374.<br><br>Glove material: nitrile rubber<br>Glove thickness: > 0.11 mm<br>Break through time: >480 min |
|   | Other skin protection:   | Wear antistatic clothing made of natural fibers (such as cotton) with long sleeves (EN 13034), and shoes that cover the entire foot (EN 10335).                                    |
| 8.2.2.3.                                      | Respiratory protection:  | In case of inadequate ventilation wear respiratory protection.   |
| 8.2.2.4.                                      | Thermal hazards:   | No information available   |
| <b>8.2.3. Environmental exposure controls</b> |  |  |
|   | Substance/mixture related measures to prevent exposure:                        | See Section 6  |
|   | Structural measures to prevent exposure:                                       | Use modern equipment.  |
|   | Organisational measures to prevent exposure:                                   | Adapt the work process to the required working conditions of the workplace. Keep away from drains, surface and ground water.   |
|   | Technical measures to prevent exposure:  | See Section 6  |

|   |  |       |        |
|---|--|-------|--------|
| <b>SECTION 9. Physical and chemical properties</b>                |  |       |        |
| <b>9.1. Information on basic physical and chemical properties</b> |  |       |        |
|   |  | Value | Method |

|               |                       |                |             |
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|   |  |                          |
|---|--|--------------------------|
| Physical state:   | liquid                                 | No information available |
| Color:  | dark red                               | No information available |
| Odour/odour threshold:                                    | glycerol like/no information available | No information available |
| Melting point / freezing point:                           | No information available               | No information available |
| Boiling point or initial boiling point and boiling range: | No information available               | No information available |
| Flammability:   | No information available               | No information available |
| Lower and upper explosion limit:                          | No information available               | No information available |
| Flash point:  | No information available               | No information available |
| Auto-ignition temperature:                                | No information available               | No information available |
| Decomposition temperature:                                | No information available               | No information available |
| pH:   | No information available               | No information available |
| Kinematic viscosity:                                      | No information available               | No information available |
| Solubility:   | No information available               | No information available |
| Partition coefficient n-octanol/water (log value):        | No information available               | No information available |
| Vapour pressure:  | No information available               | No information available |
| Density and/or relative density                           | No information available               | No information available |
| Relative vapour density:                                  | No information available               | No information available |
| Particle characteristics:                                 | No information available               | No information available |
| 9.2.  | Other information                      |                          |
|   | -                                      |                          |

| <b>SECTION 10.: Stability and reactivity</b> |                                     |  |
|--|-------------------------------------|--|
| 10.1.  | Reactivity:                         | See subsections 10.3 through 10.5.   |
| 10.2.  | Chemical stability:                 | The product is chemically stable under standard ambient conditions of storing and using. |
| 10.3.  | Possibility of hazardous reactions: | No information available.  |
| 10.4.  | Conditions to avoid:                | No information available.  |
| 10.5.  | Incompatible materials:             | No information available.  |
| 10.6.  | Hazardous decomposition products:   | No information available.  |

| <b>SECTION 11. Toxicological information</b> |  |
|--|--|
| 11.1.  | Information on hazard classes as defined in Regulation (EC) No 1272/2008 |
|  | Acute toxicity:  |

|               |                       |                |             |          |   |
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| Route of exposure:   | Method                   | Species | Effective dose<br>LD <sub>50</sub> /LC <sub>50</sub><br>or<br>ATE <sub>mixture</sub> | Exposure time | Results   |
|----------------------|--------------------------|---------|--|---------------|---|
| Oral exposure:       | anhydrous (ECHA)         | rabbit  | LD <sub>50</sub>   | -             | >2.000-<5.000 mg/kg<br>(aluminium sulphate octadecahydrate) |
| Dermal exposure:     | anhydrous (ECHA)         | rat     | LD <sub>50</sub>   | -             | >5.000mg/kg<br>(aluminium sulphate octadecahydrate)         |
| Inhalation exposure: | No information available | -       | LC <sub>50</sub>   | -             | -   |

**Specific target organ toxicity – single exposure (STOT SE):**

|                      | Specific effects         | Target organ             | Note |
|----------------------|--------------------------|--------------------------|------|
| Oral exposure:       | No information available | No information available | -    |
| Dermal exposure:     | No information available | No information available | -    |
| Inhalation exposure: | No information available | No information available | -    |

**Respiratory irritation:** No information available

**Irritation and corrosion**

|                  | Exposure time | Species | Evaluation | Method | Note                      |
|------------------|---------------|---------|------------|--------|---------------------------|
| Skin irritation: | -             | -       | -          | -      |                           |
| Eye irritation:  | -             | -       | -          | -      | Causes serious eye damage |

**Sensitization**

|                      |                          |
|----------------------|--------------------------|
| Dermal exposure:     | No information available |
| Inhalation exposure: | No information available |

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

|                  |                          |
|------------------|--------------------------|
| Oral exposure:   | No information available |
| Dermal exposure: | No information available |

|               |                       |                |             |            |
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|                      |                           |
|----------------------|---------------------------|
| Inhalation exposure: | No information available  |
| Eye exposure:        | Causes serious eye damage |

Repeated dose toxicity (subacute, subchronic, chronic)

|                       | Dose                     | Exposure time            | Species                  | Method                   | Evaluation               | Note |
|-----------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|------|
| Subacute oral         | No information available | No information available | No information available | No information available | No information available | -    |
| Subacute dermal       | No information available | No information available | No information available | No information available | No information available | -    |
| Subacute inhalation   | No information available | No information available | No information available | No information available | No information available | -    |
| Subchronic oral       | No information available | No information available | No information available | No information available | No information available | -    |
| Subchronic dermal     | No information available | No information available | No information available | No information available | No information available | -    |
| Subchronic inhalation | No information available | No information available | No information available | No information available | No information available | -    |
| Chronic oral          | No information available | No information available | No information available | No information available | No information available | -    |
| Chronic dermal        | No information available | No information available | No information available | No information available | No information available | -    |
| Chronic inhalation    | No information available | No information available | No information available | No information available | No information available | -    |

Specific target organ toxicity – repeated exposure (STOT RE):

|                     | Specific effects         | Target organ             | Note |
|---------------------|--------------------------|--------------------------|------|
| Subacute oral       | No information available | No information available | -    |
| Subacute dermal     | No information available | No information available | -    |
| Subacute inhalation | No information available | No information available | -    |
| Subchronic oral     | No information available | No information available | -    |

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|                       |                          |                          |   |
|-----------------------|--------------------------|--------------------------|---|
| Subchronic dermal     | No information available | No information available | - |
| Subchronic inhalation | No information available | No information available | - |
| Chronic oral          | No information available | No information available | - |
| Chronic dermal        | No information available | No information available | - |
| Chronic inhalation    | No information available | No information available | - |

|  |                          |
|--|--------------------------|
| CMR effects (carcinogenicity, mutagenicity, reproductive toxicity) |                          |
| Carcinogenicity:   | No information available |
| Mutagenicity <i>in-vitro</i> :                                     | No information available |
| Genotoxicity:  | No information available |
| Mutagenicity <i>in-vivo</i> :                                      | No information available |
| Germ cell mutagenicity:  | No information available |
| Reproductive toxicity:   | No information available |

|  |   |
|--|---|
| Summary of evaluation of the CMR properties: | - |
|--|---|

|         |  |
|---------|--|
| 11.2.   | Information on other hazards:                                      |
| 11.2.1. | Endocrine disrupting properties:                                   |
|         | No known endocrine disrupting properties that affect human health. |
| 11.2.2. | Other informations:  |
|         | -  |

**SECTION 12. Ecological information**

| 12.1. Toxicity              |                  |               |                       |                          |   |      |
|-----------------------------|------------------|---------------|-----------------------|--------------------------|---|------|
| Acute (short-term) toxicity | Dose             | Exposure time | Species               | Method                   | Evaluation                                      | Note |
| Fish                        | LC <sub>50</sub> | 96 hours      | Fish                  | ECHA                     | >85.9 mg/l (aluminium sulphate octadecahydrate) | -    |
| Crustacea:                  | EC <sub>50</sub> | 48 hours      | aquatic invertebrates | ECHA                     | >200 mg/l (aluminium sulphate octadecahydrate)  | -    |
| Algae/aquatic plants        | IC <sub>50</sub> | 8 days        | algae                 | No information available | -   | -    |

|               |                       |                |             |          |   |  |
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| Chronic toxicity     | Dose             | Exposure time | Species                  | Method                   | Evaluation                                       | Note |
|----------------------|------------------|---------------|--------------------------|--------------------------|--|------|
| Microorganisms       | LC <sub>50</sub> | 72 hours      | -                        | -                        | -  | -    |
| Fish                 | LC <sub>50</sub> | 96 hours      | No information available | No information available | No information available                         | -    |
| Crustacea:           | EC <sub>50</sub> | 48 hours      | No information available | No information available | No information available                         | -    |
| Algae/aquatic plants | IC <sub>50</sub> | 72 hours      | No information available | No information available | No information available                         | -    |
| Other organisms      | EC <sub>50</sub> | 180 min       | microorganisms           | ECHA                     | >1.000 mg/l (aluminium sulphate octadecahydrate) | -    |

**12.2. Persistence and degradability**

**Abiotic degradation**

|              | Degradation half-lives   | Method                   | Evaluation               | Note |
|--------------|--------------------------|--------------------------|--------------------------|------|
| Marine water | No information available | No information available | No information available | -    |
| Fresh water  | No information available | No information available | No information available | -    |
| Air          | No information available | No information available | No information available | -    |
| Soil         | No information available | No information available | No information available | -    |

**Biodegradation**

| % Degradation            | Time (days)              | Method                   | Evaluation               | Note                     |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| No information available | No information available | No information available | No information available | No information available |
|                          |                          |                          |                          |                          |

**12.3. Bioaccumulative potential**

**Partition coefficient: n-octanol/water (log K<sub>ow</sub>):**

| Value | Concentration            | pH | °C | Method                   | Evaluation               | Note |
|-------|--------------------------|----|----|--------------------------|--------------------------|------|
| -     | No information available | -  | -  | No information available | No information available | -    |
|       |                          |    |    |                          |                          |      |

|               |                       |                |             |          |   |
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| Bioconcentration factor (BCF) |                          |                          |                          |                          |
|-------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Value                         | Species                  | Method                   | Evaluation               | Note                     |
| No information available      | No information available | No information available | No information available | No information available |
|                               |                          |                          |                          |                          |

| Chronic ecotoxicity                              |                  |                          |                          |                          |                          |      |
|--|------------------|--------------------------|--------------------------|--------------------------|--------------------------|------|
| Value  | Dose             | Exposure time            | Species                  | Method                   | Evaluation               | Note |
| Chronic toxicity on fish                         | LC <sub>50</sub> | No information available | No information available | No information available | No information available | -    |
| Chronic toxicity on crustacea ( <i>Daphnia</i> ) | EC <sub>50</sub> | No information available | No information available | No information available | No information available | -    |

**12.4. Mobility in soil**

| Known or predicted distribution in environmental compartments: |                          |                          |                          |      |  |
|--|--------------------------|--------------------------|--------------------------|------|--|
| No information available                                       |                          |                          |                          |      |  |
| Surface tension:   |                          |                          |                          |      |  |
| Value  | °C                       | Concentration            | Method                   | Note |  |
| No information available                                       | No information available | No information available | No information available | -    |  |
|  |                          |                          |                          |      |  |

| Adsorption / desorption |                                  |                          |                          |                          |      |
|-------------------------|----------------------------------|--------------------------|--------------------------|--------------------------|------|
| Transport               | A/D coefficient Henry's constant | log Kow                  | Evaporation rate         | Method                   | Note |
| Soil-water              | No information available         | No information available | No information available | No information available | -    |
| Water-air               | No information available         | No information available | No information available | No information available | -    |
| Soil-air                | No information available         | No information available | No information available | No information available | -    |

|               |                       |                |             |
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|  |   |
|--|---|
| 12.5.                                      | Results of PBT and vPvB assessment  |
|  | No information available  |
| 12.6.                                      | Endocrine disrupting properties   |
|  | No known endocrine disrupting properties that affect the environment.   |
| 12.7.                                      | Other adverse effects   |
|  | No adverse effects are expected.  |
| <b>SECTION 13. Disposal considerations</b> |   |
| 13.1.                                      | Waste treatment methods   |
| 13.1.1.                                    | Product/Packaging disposal:   |
|  | Submit for disposal to the legal person authorized by the Ministry of Environmental and Nature Protection.  |
| 13.1.2.                                    | Waste codes/waste designations according to Law:  |
|  | No information available  |
| 13.1.3.                                    | Waste treatment – relevant information:   |
|  | No information available  |
| 13.1.4.                                    | Sewage disposal – relevant information:   |
|  | Waste must not be disposed of into the sewage system.   |
| 13.1.5.                                    | Other disposal recommendations:   |
|  | Do not dispose of the product's remains into the sewage system. Submit the remains to the collectors authorized by the ministry in charge. Do not dispose of the packaging into the sewage system. Submit the packaging to the collectors authorized by the ministry in charge. Do not dispose of in places where ignition may occur. |
| 13.1.6.                                    | Relevant Community provisions:  |
|  | -   |
| <b>SECTION 14. Transport information</b>   |   |
|  | Transporting/shipment by road (ADR)   |

|               |                       |                |             |
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|   |                                       |
|---|---------------------------------------|
| UN number:                                      | Not subject to transport regulations. |
| UN proper shipping name:                        | -                                     |
| Transport hazard class(es):                     | -                                     |
| Packing group:                                  | -                                     |
| Environmentally hazardous:                      | -                                     |
| Special precautions for user:                   | -                                     |
| Transporting/shipment by rail (RID)             |                                       |
| UN number:                                      | Not subject to transport regulations. |
| UN proper shipping name:                        | -                                     |
| Transport hazard class(es):                     | -                                     |
| Packing group:                                  | -                                     |
| Environmentally hazardous:                      | -                                     |
| Special precautions for user:                   | -                                     |
| Inland waterway transport (ADN)                 |                                       |
| UN number:                                      | Not subject to transport regulations. |
| UN proper shipping name:                        | -                                     |
| Transport hazard class(es):                     | -                                     |
| Packing group:                                  | -                                     |
| Environmentally hazardous:                      | -                                     |
| Special precautions for user:                   | -                                     |
| Transporting/shipment by sea (IMDG)             |                                       |
| UN number:                                      | Not subject to transport regulations. |
| UN proper shipping name:                        | -                                     |
| Transport hazard class(es):                     | -                                     |
| Packing group:                                  | -                                     |
| Environmentally hazardous:                      | -                                     |
| Special precautions for user:                   | -                                     |
| Transporting/shipment by air (ICAO-TI/IATA-DGR) |                                       |
| UN number:                                      | Not subject to transport regulations. |
| UN proper shipping name:                        | -                                     |
| Transport hazard class(es):                     | -                                     |
| Packing group:                                  | -                                     |
| Environmentally hazardous:                      | -                                     |
| Special precautions for user:                   | -                                     |

|               |                       |                |             |            |
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|                      |   |
|----------------------|---|
| Further information: | The product is not subject to classification. |
|----------------------|---|

**SECTION 15. Regulatory information**

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

|  |  |
|--|--|
| EU regulations   |  |
| Authorization and/or restrictions of use   |  |
| Authorizations:  | -  |
| Restrictions:  | -  |
| Other EU regulations:  | <p>Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC;</p> <p>Directive 2004/42/CE of the European Parliament and of the Council of 21 April 2004 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC;</p> <p>Council Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work;</p> <p>Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006;</p> <p>REACH Restrictions on the manufacturing, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII);</p> |
| Information according 1999/13/EC about limitation of emissions of volatile organic compounds (VOC-guideline) |  |
| National legislation:  | <p>Chemicals Act, Regulation on classification, packaging and labeling of dangerous substances, Ordinance on occupational exposure limit values and on biological limit values, Regulation on categories, types and classification of waste with a waste catalog and list of hazardous waste, Ordinance on writing Material safety data sheet, Transport of Hazardous Substances Act</p>   |

**15.2. Chemical safety assessment**

|      |  |
|------|--|
| None |  |
|------|--|

**SECTION 16. Other information**

|                              |   |
|------------------------------|---|
| 16.1. Indication of changes: | - |
|------------------------------|---|

|               |                       |                |             |          |   |
|---------------|-----------------------|----------------|-------------|----------|---|
| Trading name: | <b>HEMATOXYLIN ML</b> |                |             |          |   |
| Product code: | HEMML-OT-X**          | Revision date: | 27.03.2023. | Version: | 9 |

|       |   |   |
|-------|---|---|
| 16.2. | Abbreviations and acronyms:   | <p>ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)</p> <p>IMDG: International Maritime Code for Dangerous Goods</p> <p>IATA: International Air Transport Association</p> <p>GHS: Globally Harmonised System of Classification and Labelling of Chemicals</p> <p>EINECS: European Inventory of Existing Commercial Chemical Substances</p> <p>CAS: Chemical Abstracts Service (division of the American Chemical Society)</p> <p>DNEL: Derived No-Effect Level (UK REACH)</p> <p>LC50: Lethal concentration, 50 percent</p> <p>LD50: Lethal dose, 50 percent</p> <p>PBT: Persistent, Bioaccumulative and Toxic</p> <p>vPvB: very Persistent and very Bioaccumulative</p> |
| 16.3. | Key literature references and source of data:   | -   |
| 16.4. | Classification and procedure used to derive the classification for mixture according to Regulation (EC) 1272/2008 (CLP) |   |
|       | Classification  | Classification procedure  |
|       | -   | -   |
| 16.5. | Relevant H statements (number and full text)  |   |
|       | H: 318<br>319   | Causes serious eye damage.<br>Causes serious eye irritation.  |
| 16.6. | Training advice:  | -   |
| 16.7. | Further information:  | <p>** "X" in the product code marks different volumes (different packagings of the product)</p> <p>We are not responsible for consequences in case of failure to comply with instructions for use or improper use of the product described in this material safety data sheet.</p>  |

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| <b>ANNEX: Exposure scenario resulting to Chemical safety assessment</b> |
| -   |