acc. to 29 CFR 1910.1200 App D (Rev. 2024)

Buffer Solution, pH 7.00

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SECTION 1: Identification

1.1 Product identifier

Trade name Buffer Solution, pH 7.00

Product code(s) BU5007SS

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

Relevant identified uses laboratory and analytical use

1.3 Details of the supplier of the safety data sheet

AquaPhoenix Scientific 860 Gitts Run Road Hanover PA 17331 United States

Telephone: (866) 632-1291

e-mail: info@aquaphoenixsci.com

Website: https://www.aquaphoenixsci.com/

1.4 Emergency telephone number

Emergency information service ChemTel Inc.: 1-800-255-3924, +01-813-248-0585

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200, Rev. 2024)

| Section | Hazard class | Category | Hazard class and cat- egory | Hazard state- ment |
|---------|---|----------|--------------------------------|-----------------------|
| 2.16 | substance or mixture corrosive to metals | 1 | Met. Corr. 1 | H290 |
| 3.2 | skin corrosion/irritation | 3 | Skin Irrit. 3 | H316 |
| 4.1A | hazardous to the aquatic environment - acute hazard | 3 | Aquatic Acute 3 | H402 |

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labeling

- Signal word warning

- Pictograms

GHS05



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- Hazard statements

H290 May be corrosive to metals.
 H316 Causes mild skin irritation.
 H402 Harmful to aquatic life.

- Precautionary statements

P234 Keep only in original packaging.
P273 Avoid release to the environment.
P332+P317 If skin irritation occurs: Get medical help.
P390 Absorb spillage to prevent material-damage.

P406 Store in a corrosion resistant container with a resistant inner liner.

P501 Dispose of contents/container in accordance with local/regional/national/international regula-

tions.

2.3 Other hazards

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of \geq 0.1%.

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) in a concentration of \geq 0.1%.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

3.2 Mixtures

Description of the mixture

| Name of substance | Identifier | Wt% | Classification acc. to GHS | Pictograms |
|-----------------------------------|---------------------|--------|---|------------|
| Water | CAS No 7732-18-5 | 99.16 | not classified | none |
| Potassium Phosphate, Monobasic | CAS No 7778-77-0 | 0.6768 | Acute Tox. 5 / H313 Acute Tox. 3 / H331 | |
| Sodium hydroxide | CAS No 1310-73-2 | 0.115 | Met. Corr. 1 / H290 Acute Tox. 4 / H302 Skin Corr. 1A / H314 Eye Dam. 1 / H318 Aquatic Acute 3 / H402 | |
| Bronopol | CAS No 52-51-7 | 0.05 | Acute Tox. 3 / H301 Acute Tox. 4 / H312 Skin Irrit. 2 / H315 Eye Dam. 1 / H318 STOT SE 3 / H335 Aquatic Acute 1 / H400 Aquatic Chronic 2 / H411 | |
| Mordant Yellow 8 | CAS No 6359-83-7 | 0.0005 | not classified | none |

Remarks

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For full text of abbreviations: see SECTION 16

SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO2)

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

Substance or mixture corrosive to metals.

Hazardous combustion products

Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO2)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions

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Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

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

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- Corrosive conditions

Store in corrosive resistant container with a resistant inner liner.

Control of the effects

Protect against external exposure, such as

frost

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

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Occupational exposure limit values (Workplace Exposure Limits)

| Coun- try | Name of agent | CAS No | Identi- fier | TWA [ppm] | TWA [mg/m³] | STEL [ppm] | STEL [mg/m³] | Ceiling-C [ppm] | Ceiling-C [mg/m³] | Nota- tion | Source |
|--------------|------------------------------------|-----------|-----------------|--------------|----------------|---------------|-----------------|--------------------|----------------------|---------------|-------------------------|
| US | sodium hydroxide | 1310-73-2 | REL | | | | | | 2 | | NIOSH REL |
| US | sodium hydroxide | 1310-73-2 | TLV® | | | | | | 2 | | ACGIH® 2024 |
| US | sodium hydroxide | 1310-73-2 | PEL | | 2 | | | | | | 29 CFR 1910.10 00 |
| US | sodium hydroxide (caustic soda) | 1310-73-2 | PEL (CA) | | | | | | 2 | | Cal/OSH A PEL |

Notation

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

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

(unless otherwise specified)

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

weighted average (unless otherwise specified

Relevant DNELs of components

| ' | | | | | | | | |
|-----------------------------------|-----------|----------|-------------------------|------------------------------------|-------------------|---------------------------------|--|--|
| Name of substance | CAS No | Endpoint | Threshold level | Protection goal, route of exposure | Used in | Exposure time | | |
| Potassium Phosphate, Monobasic | 7778-77-0 | DNEL | 14.82 mg/m ³ | human, inhalatory | worker (industry) | chronic - systemic ef- fects | | |
| bronopol | 52-51-7 | DNEL | 3.5 mg/m ³ | human, inhalatory | worker (industry) | chronic - systemic ef- fects | | |
| bronopol | 52-51-7 | DNEL | 10.5 mg/m ³ | human, inhalatory | worker (industry) | acute - systemic ef- fects | | |
| bronopol | 52-51-7 | DNEL | 2.5 mg/m ³ | human, inhalatory | worker (industry) | chronic - local effects | | |
| bronopol | 52-51-7 | DNEL | 2.5 mg/m ³ | human, inhalatory | worker (industry) | acute - local effects | | |
| bronopol | 52-51-7 | DNEL | 2 mg/kg bw/day | human, dermal | worker (industry) | chronic - systemic ef- fects | | |
| bronopol | 52-51-7 | DNEL | 6 mg/kg bw/day | human, dermal | worker (industry) | acute - systemic ef- fects | | |
| bronopol | 52-51-7 | DNEL | 8 μg/cm² | human, dermal | worker (industry) | chronic - local effects | | |
| bronopol | 52-51-7 | DNEL | 8 μg/cm² | human, dermal | worker (industry) | acute - local effects | | |

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| Relevant PNECs of components | | | | | | | | |
|------------------------------|---------|----------|-------------------------------------|----------------------------|---------------------------------|-----------------------------------|--|--|
| Name of substance | CAS No | Endpoint | Threshold level | Organism | Environmental compartment | Exposure time | | |
| bronopol | 52-51-7 | PNEC | 0.001 ^{mg} / _l | aquatic organisms | freshwater | short-term (single in- stance) | | |
| bronopol | 52-51-7 | PNEC | 0.001 ^{mg} / _l | aquatic organisms | marine water | short-term (single in- stance) | | |
| bronopol | 52-51-7 | PNEC | 0.43 ^{mg} / _l | aquatic organisms | sewage treatment plant (STP) | short-term (single in- stance) | | |
| bronopol | 52-51-7 | PNEC | 0.021 ^{mg} / _{kg} | aquatic organisms | freshwater sediment | short-term (single in- stance) | | |
| bronopol | 52-51-7 | PNEC | 0.009 ^{mg} / _{kg} | aquatic organisms | marine sediment | short-term (single in- stance) | | |
| bronopol | 52-51-7 | PNEC | 0.21 ^{mg} / _{kg} | terrestrial organ- isms | soil | short-term (single instance) | | |

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| Physical state | liquid |
|------------------------------|-----------------|
| Color | yellow |
| Odor | characteristic |
| Melting point/freezing point | < 0 °C at 1 atm |

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| Boiling point or initial boiling point and boiling range | > 100 °C at 1 atm |
|--|---|
| Flammability | this material is combustible, but will not ignite readily |
| Lower and upper explosion limit | not determined |
| Flash point | not determined |
| Auto-ignition temperature | not determined |
| Decomposition temperature | not relevant |
| pH (value) | 7 |
| Kinematic viscosity | not determined |
| Solubility(ies) | not determined |

Partition coefficient

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

| por pressure < | < 23 hPa at 20 °C |
|----------------|-------------------|
|----------------|-------------------|

Density and/or relative density

| Density | not determined |
|-------------------------|---|
| Relative vapour density | information on this property is not available |

| Particle characteristics | not relevant (liquid) |
|--------------------------|-----------------------|
|--------------------------|-----------------------|

SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". Substance or mixture corrosive to metals.

10.2 Chemical stability

See below "Conditions to avoid".

Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

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

10.5 **Incompatible materials**

Oxidizers

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10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

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

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200, Rev. 2024)

Acute toxicity

Shall not be classified as acutely toxic.

Acute toxicity estimate (ATE) of components

| Name of substance | CAS No | Exposure route | ATE |
|--------------------------------|-----------|-----------------------|--|
| Potassium Phosphate, Monobasic | 7778-77-0 | dermal | >2,000 ^{mg} / _{kg} |
| Potassium Phosphate, Monobasic | 7778-77-0 | inhalation: dust/mist | >0.83 ^{mg} / _l /4h |
| sodium hydroxide | 1310-73-2 | oral | 325 ^{mg} / _{kg} |
| bronopol | 52-51-7 | oral | 211 ^{mg} / _{kg} |
| bronopol | 52-51-7 | dermal | 1,100 ^{mg} / _{kg} |

Skin corrosion/irritation

Causes mild skin irritation.

Serious eye damage/eye irritation

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

Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

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

Specific target organ toxicity - repeated exposure

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

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards

There is no additional information.

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SECTION 12: Ecological information

12.1 Toxicity

Harmful to aquatic life.

Aquatic toxicity (acute) of components

| Name of substance | CAS No | Endpoint | Value | Species | Exposure time |
|-----------------------------------|-----------|----------|------------------------------------|-----------------------|------------------|
| Potassium Phosphate, Monobasic | 7778-77-0 | LC50 | >100 ^{mg} / _l | fish | 96 h |
| Potassium Phosphate, Monobasic | 7778-77-0 | EC50 | >100 ^{mg} / _l | aquatic invertebrates | 48 h |
| Potassium Phosphate, Monobasic | 7778-77-0 | ErC50 | >100 ^{mg} / _l | algae | 72 h |
| sodium hydroxide | 1310-73-2 | LC50 | <180 ^{mg} / _l | fish | 96 h |
| sodium hydroxide | 1310-73-2 | EC50 | 40.4 ^{mg} / _l | aquatic invertebrates | 48 h |
| bronopol | 52-51-7 | LC50 | 11 ^{mg} / _l | fish | 96 h |
| bronopol | 52-51-7 | EC50 | 1.4 ^{mg} / _l | aquatic invertebrates | 48 h |
| bronopol | 52-51-7 | ErC50 | 0.026 ^{mg} / _l | algae | 72 h |

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0.1\%$.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) in a concentration of \geq 0.1%.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

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

Waste treatment of containers/packages

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

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

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SECTION 14: Transport information

14.1 UN number not subject to transport regulations

14.2 UN proper shipping name not relevant

14.3 Transport hazard class(es) none

14.4 Packing group not assigned

14.5 Environmental hazards non-environmentally hazardous acc. to the danger-

ous goods regulations

14.6 Special precautions for user

There is no additional information.

14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT) - Additional information Not subject to transport regulations.

International Maritime Dangerous Goods Code (IMDG) - Additional information Not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information Not subject to ICAO-IATA.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

Toxic Substance Control Act (TSCA) all ingredients are listed (ACTIVE) or exempt from

listing

Superfund Amendment and Reauthorization Act (SARA TITLE III)

- The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

none of the ingredients are listed

 Specific Toxic Chemical Listings (EPCRA Section 313) none of the ingredients are listed

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

- List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

| Name of substance | CAS No | Wt% | Remarks | Statutory code | Final RQ pounds (Kg) |
|-------------------|-----------|-------|---------|----------------|----------------------|
| sodium hydroxide | 1310-73-2 | 0.115 | | 1 | 1000 (454) |

Legend

1 "1" indicates that the statutory source is section 311(b)(2) of the Clean Water Act

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Clean Air Act

none of the ingredients are listed

Right to Know Hazardous Substance List

- Hazardous Substance List (NJ-RTK)

| Name of substance | CAS No | Wt% | Remarks | Classifications |
|-------------------|-----------|-------|---------|-----------------|
| sodium hydroxide | 1310-73-2 | 0.115 | | CO R1 |

<u>Legend</u>

CO Corrosive

R1 Reactive - First Degree

California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

none of the ingredients are listed

Industry or sector specific available guidance(s)

NPCA-HMIS® III

Hazardous Materials Identification System. American Coatings Association.

| Category | Rating | Description |
|---------------------|--------|--|
| Chronic | / | none |
| Health | 0 | no significant risk to health |
| Flammability | 1 | material that must be preheated before ignition can occur |
| Physical hazard | 0 | material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive |
| Personal protection | - | |

NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

| Category | Degree of hazard | Description |
|----------------|---------------------|--|
| Flammability | 1 | material that must be preheated before ignition can occur |
| Health | 0 | material that, under emergency conditions, would offer no hazard beyond that of ordin- ary combustible material |
| Instability | 0 | material that is normally stable, even under fire conditions |
| Special hazard | | |

National inventories

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

Legend

AIIC Australian Inventory of Industrial Chemicals
CICR Chemical Inventory and Control Regulation

CSCL-ENCS List of Existing and New Chemical Substances (CSCL-ENCS)

DSL Domestic Substances List (DSL)

ECSI EC Substance Inventory (EINECS, ELINCS, NLP)

IECSC Inventory of Existing Chemical Substances Produced or Imported in China

INSQ National Inventory of Chemical Substances

ISHA-ENCS Inventory of Existing and New Chemical Substances (ISHA-ENCS)

KECI Korea Existing Chemicals Inventory NZIOC New Zealand Inventory of Chemicals

PICCS Philippine Inventory of Chemicals and Chemical Substances (PICCS)

REACH Reg. REACH registered substances

TCSI Taiwan Chemical Substance Inventory

TSCA Toxic Substance Control Act

15.2 Chemical Safety Assessment

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

SECTION 16: Other information, including date of preparation or last revision

Indication of changes (revised safety data sheet)

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| Section | Former entry (text/value) | Actual entry (text/value) | Safety-rel- evant |
|---------|--|---|----------------------|
| 2.1 | | Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200, Rev. 2024): change in the listing (table) | yes |
| 2.2 | - Pictograms: not required | - Pictograms | yes |
| 2.2 | | - Pictograms: change in the listing (table) | yes |
| 2.2 | | - Hazard statements: change in the listing (table) | yes |
| 2.2 | | - Precautionary statements: change in the listing (table) | yes |
| 3.2 | | Description of the mixture: change in the listing (table) | yes |
| 5.2 | Special hazards arising from the substance or mixture | Special hazards arising from the substance or mix- ture: Substance or mixture corrosive to metals. | yes |
| 7.2 | | Managing of associated risks | yes |
| 7.2 | | - Corrosive conditions: Store in corrosive resistant container with a resistant inner liner. | yes |
| 8.1 | | Relevant DNELs of components: change in the listing (table) | yes |
| 10.1 | Reactivity: Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". | Reactivity: Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". Substance or mixture corrosive to metals. | yes |
| 11.1 | | Acute toxicity estimate (ATE) of components: change in the listing (table) | yes |
| 12.5 | Results of PBT and vPvB assessment: According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance at a concentration of ≥ 0.1%. | Results of PBT and vPvB assessment: Does not contain a PBT-/vPvB-substance at a concentration of ≥ 0.1%. | yes |
| 15.1 | | Toxic Substance Control Act (TSCA): all ingredients are listed (ACTIVE) or exempt from listing | yes |
| 15.1 | | National inventories | yes |
| 15.1 | | National inventories: change in the listing (table) | yes |

Abbreviations and acronyms

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| Abbr. | Descriptions of used abbreviations |
|------------------|---|
| 29 CFR 1910.1000 | 29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits) |
| 49 CFR US DOT | 49 CFR U.S. Department of Transportation |
| ACGIH® 2024 | From ACGIH®, 2024 TLVs® and BEIs® Book. Copyright 2024. Reprinted with permission. Information on the proper use of the TLVs® and BEIs®: http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement |
| Acute Tox. | Acute toxicity |
| Aquatic Acute | Hazardous to the aquatic environment - acute hazard |
| Aquatic Chronic | Hazardous to the aquatic environment - chronic hazard |
| ATE | Acute Toxicity Estimate |
| Cal/OSHA PEL | California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs) |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| Ceiling-C | Ceiling value |
| DGR | Dangerous Goods Regulations (see IATA/DGR) |
| DNEL | Derived No-Effect Level |
| EC50 | Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval |
| ED | Endocrine disruptor |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINCS | European List of Notified Chemical Substances |
| ErC50 | ≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control |
| Eye Dam. | Seriously damaging to the eye |
| Eye Irrit. | Irritant to the eye |
| GHS | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations |
| IATA | International Air Transport Association |
| IATA/DGR | Dangerous Goods Regulations (DGR) for the air transport (IATA) |
| ICAO | International Civil Aviation Organization |
| IMDG | International Maritime Dangerous Goods Code |
| LC50 | Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval |
| Met. Corr. | Substance or mixture corrosive to metals |
| NIOSH REL | National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs) |
| NLP | No-Longer Polymer |
| NPCA-HMIS® III | National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition |
| OSHA | Occupational Safety and Health Administration (United States) |
| PBT | Persistent, Bioaccumulative and Toxic |
| PEL | Permissible exposure limit |
| PNEC | Predicted No-Effect Concentration |

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acc. to 29 CFR 1910.1200 App D (Rev. 2024)

Buffer Solution, pH 7.00

Version number: 1.1 Date of compilation: 2025-05-20

Key literature references and sources for data

Globally Harmonized System of Classification and Labelling of Chemicals ("Purple book").

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

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

| Code | Text |
|------|--|
| H290 | May be corrosive to metals. |
| H301 | Toxic if swallowed. |
| H302 | Harmful if swallowed. |
| H312 | Harmful in contact with skin. |
| H313 | May be harmful in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H315 | Causes skin irritation. |
| H316 | Causes mild skin irritation. |
| H318 | Causes serious eye damage. |
| H331 | Toxic if inhaled. |
| H335 | May cause respiratory irritation. |
| H400 | Very toxic to aquatic life. |
| H402 | Harmful to aquatic life. |
| H411 | Toxic to aquatic life with long lasting effects. |

Disclaimer

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

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