

### SECTION 1: Identification

#### 1.1. Product identifier

Product form : Mixture  
 Trade name : BUFFER pH 9  
 Product code : 202070x

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

Recommended uses and restrictions : For laboratory use only

#### 1.3. Supplier's details

Labchem (Pty)Ltd  
 6 Wakefield Road  
 Founders Hill  
 1609 Johannesburg - South Africa  
 T +27 11 452 1116 - F +27 86 588 0293  
[techlab@labchem.co.za](mailto:techlab@labchem.co.za) - [www.labchem.co.za](http://www.labchem.co.za)

#### 1.4. Emergency telephone number

Emergency number : +27 11 452 1116

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to the United Nations GHS

Flammable liquids Not classified  
 Reproductive toxicity, Category 1A H360  
 Full text of H statements : see section 16

#### 2.2. Label elements

##### Labelling according to the United Nations GHS

Hazard pictograms (GHS-ZA) :



GHS08

Signal word (GHS-ZA) : Danger  
 Hazardous ingredients : boric acid  
 Hazard statements (GHS-ZA) : H360 - May damage fertility or the unborn child.  
 Precautionary statements (GHS-ZA) : P201 - Obtain special instructions before use.  
 P202 - Do not handle until all safety precautions have been read and understood.  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
 P308+P313 - IF exposed or concerned: Get medical advice/attention.  
 P405 - Store locked up.  
 P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

#### 2.3. Other hazards

Adverse physicochemical, human health and environmental effects : To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice, May damage fertility or the unborn child.

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

| Name             | Product identifier   | %     | Classification according to the United Nations GHS |
|------------------|----------------------|-------|--|
| water            | (CAS-No.) 7732-18-5  | > 98  | Not classified                                     |
| boric acid       | (CAS-No.) 10043-35-3 | < 1.3 | Repr. 1A, H360<br>Aquatic Acute 3, H402            |
| sodium hydroxide | (CAS-No.) 1310-73-2  | <0.5  | Skin Corr. 1, H314<br>Aquatic Acute 3, H402        |

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According to SANS 10234:2008 and SANS 11014:2010

| Name                     | Product identifier  | %     | Classification according to the United Nations GHS                                     |
|--------------------------|---------------------|-------|--|
| citric acid, monohydrate | (CAS-No.) 5949-29-1 | < 0.2 | Acute Tox. Not classified (Oral)<br>Skin Corr. 1, H314<br>Aquatic Acute Not classified |

Full text of H-statements: see section 16

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- First-aid measures general : IF exposed or concerned: Get medical advice/attention.  
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.  
First-aid measures after skin contact : Wash skin with plenty of water.  
First-aid measures after eye contact : Rinse eyes with water as a precaution.  
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

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

No additional information available

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

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

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

Hazardous decomposition products in case of fire : Toxic fumes may be released.

#### 5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

### SECTION 6: Accidental release measures

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

No additional information available

##### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Only qualified personnel equipped with suitable protective equipment may intervene.

##### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

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

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Separate working clothes from town clothes. Launder separately.

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

Storage conditions : Store in a well-ventilated place. Keep cool. Store locked up.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

No additional information available

#### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

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Environmental exposure controls : Avoid release to the environment.

### 8.3. Individual protection measures, such as personal protective equipment (PPE)

Hand protection : Protective gloves

Eye protection : Safety glasses

Skin and body protection : Wear suitable protective clothing

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment. [In case of inadequate ventilation] wear respiratory protection.

#### Personal protective equipment symbol(s):



### 8.4. Exposure limit values for the other components

No additional information available

## SECTION 9: Physical and chemical properties

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

Physical state : Liquid

Appearance : Translucent.

Colour : Colourless.

Odour : No data available

Odour threshold : No data available

pH : 9

pH solution : No data available

Relative evaporation rate (butylacetate=1) : No data available

Relative evaporation rate (ether=1) : No data available

Melting point : Not applicable

Freezing point : No data available

Boiling point : No data available

Flash point : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Flammability (solid, gas) : Not applicable

Vapour pressure : No data available

Vapour pressure at 50 °C : No data available

Relative vapour density at 20 °C : No data available

Relative density : No data available

Relative density of saturated gas/air mixture : No data available

Density : No data available

Relative gas density : No data available

Solubility : completely miscible.

Partition coefficient n-octanol/water (Log Pow) : No data available

Partition coefficient n-octanol/water (Log Kow) : No data available

Viscosity, kinematic : No data available

Viscosity, dynamic : No data available

Explosive properties : No data available

Oxidising properties : No data available

Explosive limits : No data available

Lower explosive limit (LEL) : No data available

Upper explosive limit (UEL) : No data available

### 9.2. Other information

No additional information available

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According to SANS 10234:2008 and SANS 11014:2010

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

#### 10.2. Chemical stability

Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

#### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

#### 10.5. Incompatible materials

No additional information available

#### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

| <b>citric acid, monohydrate (5949-29-1)</b> |  |
|---|--|
| LD50 oral                                   | 5400 mg/kg bodyweight (Equivalent or similar to OECD 401, Mouse, Male / female, Experimental value, Anhydrous form, Oral, 10 day(s)) |
| LD50 dermal rat                             | > 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))           |
| <b>boric acid (10043-35-3)</b>              |  |
| LD50 oral rat                               | > 2600 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male, Experimental value, Oral, 15 day(s))                              |
| LD50 dermal rat                             | <  |
| LD50 dermal rabbit                          | > 2000 mg/kg (FIFRA (40 CFR), 24 h, Rabbit, Male / female, Experimental value, Dermal, 14 day(s))                                    |
| LC50 inhalation rat (mg/l)                  | > 2.12 mg/l air (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (dust), 14 day(s))     |

Skin corrosion/irritation : Not classified  
pH: 9

Serious eye damage/irritation : Not classified  
pH: 9

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : May damage fertility or the unborn child.

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

| <b>citric acid, monohydrate (5949-29-1)</b> |  |
|---|--|
| LC50 fish 1                                 | 440 – 760 mg/l (Equivalent or similar to OECD 203, 48 h, Leuciscus idus, Static system, Fresh water, Experimental value, Anhydrous form) |
| EC50 Daphnia 1                              | 1535 mg/l (Other, 24 h, Daphnia magna, Static system, Fresh water, Experimental value, Anhydrous form)                                   |

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| <b>citric acid, monohydrate (5949-29-1)</b>     |  |
|---|--|
| Partition coefficient n-octanol/water (Log Pow) | -1.8 – -1.55 (Anhydrous form, Experimental value)  |
| <b>sodium hydroxide (1310-73-2)</b>             |  |
| LC50 fish 1                                     | 45.4 mg/l (96 h, Salmo gairdneri, Static system, Fresh water, Experimental value, Solution >=50%)  |
| EC50 Daphnia 1                                  | 40.4 mg/l (48 h, Ceriodaphnia sp., Experimental value, Nominal concentration)  |
| <b>boric acid (10043-35-3)</b>                  |  |
| LC50 fish 1                                     | 79.7 mg/l (EPA OPPTS 850.1075, 96 h, Pimephales promelas, Static system, Fresh water, Read-across)   |
| ErC50 (algae)                                   | 52.4 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Weight of evidence, GLP) |
| BCF fish 1                                      | < 0.1 l/kg (60 day(s), Oncorhynchus tshawytscha, Flow-through system, Fresh water, Weight of evidence, Fresh weight)                           |
| Partition coefficient n-octanol/water (Log Pow) | -1.09 (Experimental value, EU Method A.8: Partition Coefficient, 22 °C)  |

### 12.2. Persistence and degradability

| <b>BUFFER pH 9</b>            |                                     |
|-------------------------------|-------------------------------------|
| Persistence and degradability | No additional information available |

| <b>citric acid, monohydrate (5949-29-1)</b> |  |
|---|--|
| Persistence and degradability               | Biodegradable in the soil. Readily biodegradable in water. |
| Biochemical oxygen demand (BOD)             | 0.481 g O <sub>2</sub> /g substance                        |
| Chemical oxygen demand (COD)                | 0.665 g O <sub>2</sub> /g substance                        |

| <b>sodium hydroxide (1310-73-2)</b> |                                   |
|-------------------------------------|-----------------------------------|
| Persistence and degradability       | Biodegradability: not applicable. |
| Chemical oxygen demand (COD)        | Not applicable (inorganic)        |
| ThOD                                | Not applicable (inorganic)        |

| <b>boric acid (10043-35-3)</b> |   |
|--------------------------------|---|
| Persistence and degradability  | Biodegradability in soil: not applicable. Biodegradability: not applicable. |
| Chemical oxygen demand (COD)   | Not applicable  |
| ThOD                           | Not applicable  |
| BOD (% of ThOD)                | Not applicable  |

### 12.3. Bioaccumulative potential

| <b>BUFFER pH 9</b>        |                                     |
|---------------------------|-------------------------------------|
| Bioaccumulative potential | No additional information available |

| <b>citric acid, monohydrate (5949-29-1)</b>     |   |
|---|---|
| Partition coefficient n-octanol/water (Log Pow) | -1.8 – -1.55 (Anhydrous form, Experimental value) |
| Bioaccumulative potential                       | Low potential for bioaccumulation (Log Kow < 4).  |

| <b>sodium hydroxide (1310-73-2)</b> |                      |
|-------------------------------------|----------------------|
| Bioaccumulative potential           | Not bioaccumulative. |

| <b>boric acid (10043-35-3)</b>                  |  |
|---|--|
| BCF fish 1                                      | < 0.1 l/kg (60 day(s), Oncorhynchus tshawytscha, Flow-through system, Fresh water, Weight of evidence, Fresh weight) |
| Partition coefficient n-octanol/water (Log Pow) | -1.09 (Experimental value, EU Method A.8: Partition Coefficient, 22 °C)  |
| Bioaccumulative potential                       | Not bioaccumulative.   |

### 12.4. Mobility in soil

| <b>BUFFER pH 9</b> |                                     |
|--------------------|-------------------------------------|
| Mobility in soil   | No additional information available |

| <b>citric acid, monohydrate (5949-29-1)</b>     |   |
|---|---|
| Partition coefficient n-octanol/water (Log Pow) | -1.8 – -1.55 (Anhydrous form, Experimental value)     |
| Ecology - soil                                  | No (test)data on mobility of the substance available. |

| <b>sodium hydroxide (1310-73-2)</b> |   |
|-------------------------------------|---|
| Ecology - soil                      | No (test)data on mobility of the substance available. |

| <b>boric acid (10043-35-3)</b>                  |   |
|---|---|
| Partition coefficient n-octanol/water (Log Pow) | -1.09 (Experimental value, EU Method A.8: Partition Coefficient, 22 °C)   |
| Ecology - soil                                  | No (test)data on mobility of the substance available. May be harmful to plant growth, blooming and fruit formation. |

### 12.5. Other adverse effects

Ozone : Not classified

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According to SANS 10234:2008 and SANS 11014:2010

Other adverse effects : No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

### SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

| SANS                                    | IMDG                                    | IATA                               |
|---|---|------------------------------------|
| <b>14.1. UN number</b>                  |   |                                    |
| Not regulated for transport             |   |                                    |
| <b>14.2. Proper Shipping Name</b>       |   |                                    |
| Not applicable                          | Not applicable                          | Not applicable                     |
| <b>14.3. Transport hazard class(es)</b> |   |                                    |
| Not applicable                          | Not applicable                          | Not applicable                     |
| Not applicable                          | Not applicable                          | Not applicable                     |
| <b>14.4. Packing group</b>              |   |                                    |
| Not applicable                          | Not applicable                          | Not applicable                     |
| <b>14.5. Environmental hazards</b>      |   |                                    |
| Dangerous for the environment : No      | Dangerous for the environment : No<br>: | Dangerous for the environment : No |
| No supplementary information available  |   |                                    |

#### 14.6. Special precautions for user

##### - SANS

No data available

##### - IMDG

No data available

##### - IATA

No data available

#### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

### SECTION 15: Regulatory information

#### 15.1. Safety, health, and environmental national regulations specific for the product

Regulatory reference : SANS 10234:2008; SANS 11014:2010; SANS 10228:2012;SANS 10229:2010; SANS 10232(1,2,4), SANS 10231:2018; Occupational Health and Safety Act 85 of 1993; National Road Traffic Act 93 of 1996.

### SECTION 16: Other information

Issue date : 09/03/2020

Revision date : 09/03/2025

Full text of H-statements:

|      |   |
|------|---|
| H314 | Causes severe skin burns and eye damage.  |
| H360 | May damage fertility or the unborn child. |
| H402 | Harmful to aquatic life                   |

SDS South Africa

*The data provided in this Safety Data Sheet (SDS) is correct to the best of our knowledge. The data relates to the specific product as named and is intended as a guide to the safe handling of the product in all its facets. The data may no longer be valid if the product is used in any process or in combination with other products. This SDS is not a quality specification nor any form of guarantee.*