



# Safety Data Sheet

Cat. # BTNM-0075

TBE Buffer Concentrate, 1X, 1L

Size: 1L





# TBE Buffer, 1X, 1L

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830  
Revision date: 5/11/2017

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

#### 1.1. Product identifier

Product form : Mixture  
Product name : TBE Buffer, 1X, 1L  
Product code : T037  
Product group : Blend

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

##### 1.2.1. Relevant identified uses

No additional information available

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

Geno Technology, Inc./ G-Biosciences  
9800 Page Avenue  
63132-1429 Saint Louis - United States  
T 800-628-7730 - F 314-991-1504  
[technical@GBiosciences.com](mailto:technical@GBiosciences.com) - [www.GBiosciences.com](http://www.GBiosciences.com)

#### 1.4. Emergency telephone number

Emergency number : Chemtrec **1-800-424-9300** (USA/Canada), **+1-703-527-3887** (Intl)

### SECTION 2: Hazards identification

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

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

Not classified

##### 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.

#### 2.2. Label elements

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

EUH-statements : EUH210 - Safety data sheet available on request.

#### 2.3. Other hazards

No additional information available

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

| Name  | Product identifier  | %          | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---|---|------------|---|
| Deionized water   | (CAS-No.) 7732-18-5   | >= 80      | Not classified  |
| boric acid<br>substance listed as REACH Candidate             | (CAS-No.) 10043-35-3<br>(EC-No.) 233-139-2<br>(EC Index-No.) 005-007-00-2 | 0.5 - 2    | Repr. 1B, H360FD  |
| tris(hydroxymethyl)aminomethane                               | (CAS-No.) 77-86-1<br>(EC-No.) 201-064-4                                   | 0.5 - 2    | Not classified  |
| disodium dihydrogen ethylenediaminetetraacetate,<br>dihydrate | (CAS-No.) 6381-92-6<br>(EC-No.) 205-358-3                                 | 0.05 - 0.5 | Not classified  |

##### Specific concentration limits:

| Name       | Product identifier  | Specific concentration limits     |
|------------|---|-----------------------------------|
| boric acid | (CAS-No.) 10043-35-3<br>(EC-No.) 233-139-2<br>(EC Index-No.) 005-007-00-2 | ( 5.5 =<C < 100) Repr. 1B, H360FD |

Full text of H-statements: see section 16

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

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

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

Emergency procedures : Ventilate spillage area.

##### 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.

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

Methods for cleaning up : Take up liquid spill into absorbent material.  
Other information : Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 13.

### 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.  
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

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

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

No additional information available

#### 8.2. Exposure controls

##### Appropriate engineering controls:

Ensure good ventilation of the work station.

##### Hand protection:

Protective gloves

##### Eye protection:

Safety glasses

##### Skin and body protection:

Wear suitable protective clothing

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### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

### Environmental exposure controls:

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

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

|  |                     |
|--|---------------------|
| Physical state                             | : Liquid            |
| Colour                                     | : No data available |
| Odour                                      | : No data available |
| Odour threshold                            | : No data available |
| pH   | : No data available |
| Relative evaporation rate (butylacetate=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 |
| Relative vapour density at 20 °C           | : No data available |
| Relative density                           | : No data available |
| Solubility                                 | : No data available |
| Log Pow                                    | : 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 |

### 9.2. Other information

No additional information available

## 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

Hazardous decomposition products.

## 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 |

### tris(hydroxymethyl)aminomethane (77-86-1)

|                 |  |
|-----------------|--|
| LD50 oral rat   | > 5000 mg/kg bodyweight (OECD 425: Acute Oral Toxicity: Up-and-Down Procedure, Rat, Female, Experimental value, Oral, 14 day(s)) |
| LD50 dermal rat | > 5000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal)                  |

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| <b>disodium dihydrogen ethylenediaminetetraacetate, dihydrate (6381-92-6)</b> |                       |
|---|-----------------------|
| LD50 oral rat   | > 2000 mg/kg (Rat)    |
| LD50 dermal rabbit  | > 5000 mg/kg (Rabbit) |

| <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 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 |
| Serious eye damage/irritation     | : Not classified |
| Respiratory or skin sensitisation | : Not classified |
| Germ cell mutagenicity            | : Not classified |
| Carcinogenicity                   | : Not classified |
| Reproductive toxicity             | : Not classified |
| 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. |
| Acute aquatic toxicity   | : Not classified  |
| Chronic aquatic toxicity | : Not classified  |

| <b>tris(hydroxymethyl)aminomethane (77-86-1)</b> |  |
|--|--|
| EC50 Daphnia 1                                   | > 980 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)     |
| EC50 72h algae (1)                               | 397 mg/l (Equivalent or similar to OECD 201, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Growth rate) |

| <b>disodium dihydrogen ethylenediaminetetraacetate, dihydrate (6381-92-6)</b> |                         |
|---|-------------------------|
| LC50 fish 1   | 320 mg/l (LC50; 96 h)   |
| EC50 Daphnia 1  | > 100 mg/l (EC50; 24 h) |

| <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) |

### 12.2. Persistence and degradability

| <b>tris(hydroxymethyl)aminomethane (77-86-1)</b> |                                 |
|--|---------------------------------|
| Persistence and degradability                    | Readily biodegradable in water. |

| <b>disodium dihydrogen ethylenediaminetetraacetate, dihydrate (6381-92-6)</b> |                                     |
|---|-------------------------------------|
| Persistence and degradability   | Not readily biodegradable in water. |
| Biochemical oxygen demand (BOD)   | 0.01 g O <sub>2</sub> /g substance  |

| <b>boric acid (10043-35-3)</b> |   |
|--------------------------------|---|
| Persistence and degradability  | Biodegradability in soil: not applicable. Biodegradability: not applicable. |

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|                              |                |
|------------------------------|----------------|
| Chemical oxygen demand (COD) | Not applicable |
| ThOD                         | Not applicable |
| BOD (% of ThOD)              | Not applicable |

### 12.3. Bioaccumulative potential

#### tris(hydroxymethyl)aminomethane (77-86-1)

|                           |  |
|---------------------------|--|
| Log Pow                   | -2.31 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C) |
| Bioaccumulative potential | Not bioaccumulative.   |

#### disodium dihydrogen ethylenediaminetetraacetate, dihydrate (6381-92-6)

|                           |                                    |
|---------------------------|------------------------------------|
| Bioaccumulative potential | No bioaccumulation data available. |
|---------------------------|------------------------------------|

#### boric acid (10043-35-3)

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

### 12.4. Mobility in soil

#### tris(hydroxymethyl)aminomethane (77-86-1)

|                |                        |
|----------------|------------------------|
| Log Koc        | 1.87 (log Koc, QSAR)   |
| Ecology - soil | Highly mobile in soil. |

#### boric acid (10043-35-3)

|                |   |
|----------------|---|
| Ecology - soil | No (test)data on mobility of the substance available. May be harmful to plant growth, blooming and fruit formation. |
|----------------|---|

### 12.5. Results of PBT and vPvB assessment

#### Component

|   |   |
|---|---|
| tris(hydroxymethyl)aminomethane (77-86-1) | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII<br>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |
| boric acid (10043-35-3)                   | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII<br>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Waste treatment methods.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

### 14.1. UN number

|               |                  |
|---------------|------------------|
| UN-No. (ADR)  | : Not applicable |
| UN-No. (IMDG) | : Not applicable |
| UN-No. (IATA) | : Not applicable |
| UN-No. (ADN)  | : Not applicable |
| UN-No. (RID)  | : Not applicable |

### 14.2. UN proper shipping name

|                             |                  |
|-----------------------------|------------------|
| Proper Shipping Name (ADR)  | : Not applicable |
| Proper Shipping Name (IMDG) | : Not applicable |
| Proper Shipping Name (IATA) | : Not applicable |
| Proper Shipping Name (ADN)  | : Not applicable |
| Proper Shipping Name (RID)  | : Not applicable |

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### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR) : Not applicable

#### IMDG

Transport hazard class(es) (IMDG) : Not applicable

#### IATA

Transport hazard class(es) (IATA) : Not applicable

#### ADN

Transport hazard class(es) (ADN) : Not applicable

#### RID

Transport hazard class(es) (RID) : Not applicable

### 14.4. Packing group

Packing group (ADR) : Not applicable

Packing group (IMDG) : Not applicable

Packing group (IATA) : Not applicable

Packing group (ADN) : Not applicable

Packing group (RID) : Not applicable

### 14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

### 14.6. Special precautions for user

#### Overland transport

Not applicable

#### Transport by sea

Not applicable

#### Air transport

Not applicable

#### Inland waterway transport

Not applicable

#### Rail transport

Not applicable

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains a substance on the REACH candidate list in concentration  $\geq 0.1\%$  or with a lower specific limit: Boric acid (EC 233-139-2, CAS 10043-35-3)

Contains no REACH Annex XIV substances

Contains no substance subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

Substance(s) are not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC.

#### 15.1.2. National regulations

No additional information available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

### Full text of H- and EUH-statements:

|          |  |
|----------|--|
| Repr. 1B | Reproductive toxicity, Category 1B                 |
| H360FD   | May damage fertility. May damage the unborn child. |

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|        |   |
|--------|---|
| EUH210 | Safety data sheet available on request. |
|--------|---|

Safety Data Sheet applicable for regions : GB - United Kingdom

SDS EU (REACH Annex II)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*





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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830  
Revision date: 5/11/2017

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

#### 1.1. Product identifier

Product form : Mixture  
Product name : TBE Buffer, 1X, 1L  
Product code : T037  
Product group : Blend

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

##### 1.2.1. Relevant identified uses

No additional information available

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

Geno Technology, Inc./ G-Biosciences  
9800 Page Avenue  
63132-1429 Saint Louis - United States  
T 800-628-7730 - F 314-991-1504  
[technical@GBiosciences.com](mailto:technical@GBiosciences.com) - [www.GBiosciences.com](http://www.GBiosciences.com)

#### 1.4. Emergency telephone number

Emergency number : Chemtrec **1-800-424-9300** (USA/Canada), **+1-703-527-3887** (Intl)

### SECTION 2: Hazards identification

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

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

Not classified

##### 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.

#### 2.2. Label elements

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

EUH-statements : EUH210 - Safety data sheet available on request.

#### 2.3. Other hazards

No additional information available

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

| Name  | Product identifier  | %          | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---|---|------------|---|
| Deionized water   | (CAS-No.) 7732-18-5   | >= 80      | Not classified  |
| boric acid<br>substance listed as REACH Candidate             | (CAS-No.) 10043-35-3<br>(EC-No.) 233-139-2<br>(EC Index-No.) 005-007-00-2 | 0.5 - 2    | Repr. 1B, H360FD  |
| tris(hydroxymethyl)aminomethane                               | (CAS-No.) 77-86-1<br>(EC-No.) 201-064-4                                   | 0.5 - 2    | Not classified  |
| disodium dihydrogen ethylenediaminetetraacetate,<br>dihydrate | (CAS-No.) 6381-92-6<br>(EC-No.) 205-358-3                                 | 0.05 - 0.5 | Not classified  |

##### Specific concentration limits:

| Name       | Product identifier  | Specific concentration limits     |
|------------|---|-----------------------------------|
| boric acid | (CAS-No.) 10043-35-3<br>(EC-No.) 233-139-2<br>(EC Index-No.) 005-007-00-2 | ( 5.5 =<C < 100) Repr. 1B, H360FD |

Full text of H-statements: see section 16

# TBE Buffer, 1X, 1L

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

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

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

Emergency procedures : Ventilate spillage area.

##### 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.

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

Methods for cleaning up : Take up liquid spill into absorbent material.  
Other information : Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 13.

### 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.  
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

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

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

No additional information available

#### 8.2. Exposure controls

##### Appropriate engineering controls:

Ensure good ventilation of the work station.

##### Hand protection:

Protective gloves

##### Eye protection:

Safety glasses

##### Skin and body protection:

Wear suitable protective clothing

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### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

### Environmental exposure controls:

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

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

|  |                     |
|--|---------------------|
| Physical state                             | : Liquid            |
| Colour                                     | : No data available |
| Odour                                      | : No data available |
| Odour threshold                            | : No data available |
| pH   | : No data available |
| Relative evaporation rate (butylacetate=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 |
| Relative vapour density at 20 °C           | : No data available |
| Relative density                           | : No data available |
| Solubility                                 | : No data available |
| Log Pow                                    | : 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 |

### 9.2. Other information

No additional information available

## 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

Hazardous decomposition products.

## 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 |

### tris(hydroxymethyl)aminomethane (77-86-1)

|                 |  |
|-----------------|--|
| LD50 oral rat   | > 5000 mg/kg bodyweight (OECD 425: Acute Oral Toxicity: Up-and-Down Procedure, Rat, Female, Experimental value, Oral, 14 day(s)) |
| LD50 dermal rat | > 5000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal)                  |

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

| <b>disodium dihydrogen ethylenediaminetetraacetate, dihydrate (6381-92-6)</b> |                       |
|---|-----------------------|
| LD50 oral rat   | > 2000 mg/kg (Rat)    |
| LD50 dermal rabbit  | > 5000 mg/kg (Rabbit) |

| <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 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 |
| Serious eye damage/irritation     | : Not classified |
| Respiratory or skin sensitisation | : Not classified |
| Germ cell mutagenicity            | : Not classified |
| Carcinogenicity                   | : Not classified |
| Reproductive toxicity             | : Not classified |
| 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. |
| Acute aquatic toxicity   | : Not classified  |
| Chronic aquatic toxicity | : Not classified  |

| <b>tris(hydroxymethyl)aminomethane (77-86-1)</b> |  |
|--|--|
| EC50 Daphnia 1                                   | > 980 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)     |
| EC50 72h algae (1)                               | 397 mg/l (Equivalent or similar to OECD 201, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Growth rate) |

| <b>disodium dihydrogen ethylenediaminetetraacetate, dihydrate (6381-92-6)</b> |                         |
|---|-------------------------|
| LC50 fish 1   | 320 mg/l (LC50; 96 h)   |
| EC50 Daphnia 1  | > 100 mg/l (EC50; 24 h) |

| <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) |

### 12.2. Persistence and degradability

| <b>tris(hydroxymethyl)aminomethane (77-86-1)</b> |                                 |
|--|---------------------------------|
| Persistence and degradability                    | Readily biodegradable in water. |

| <b>disodium dihydrogen ethylenediaminetetraacetate, dihydrate (6381-92-6)</b> |                                     |
|---|-------------------------------------|
| Persistence and degradability   | Not readily biodegradable in water. |
| Biochemical oxygen demand (BOD)   | 0.01 g O <sub>2</sub> /g substance  |

| <b>boric acid (10043-35-3)</b> |   |
|--------------------------------|---|
| Persistence and degradability  | Biodegradability in soil: not applicable. Biodegradability: not applicable. |

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|                              |                |
|------------------------------|----------------|
| Chemical oxygen demand (COD) | Not applicable |
| ThOD                         | Not applicable |
| BOD (% of ThOD)              | Not applicable |

### 12.3. Bioaccumulative potential

#### tris(hydroxymethyl)aminomethane (77-86-1)

|                           |  |
|---------------------------|--|
| Log Pow                   | -2.31 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C) |
| Bioaccumulative potential | Not bioaccumulative.   |

#### disodium dihydrogen ethylenediaminetetraacetate, dihydrate (6381-92-6)

|                           |                                    |
|---------------------------|------------------------------------|
| Bioaccumulative potential | No bioaccumulation data available. |
|---------------------------|------------------------------------|

#### boric acid (10043-35-3)

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

### 12.4. Mobility in soil

#### tris(hydroxymethyl)aminomethane (77-86-1)

|                |                        |
|----------------|------------------------|
| Log Koc        | 1.87 (log Koc, QSAR)   |
| Ecology - soil | Highly mobile in soil. |

#### boric acid (10043-35-3)

|                |   |
|----------------|---|
| Ecology - soil | No (test)data on mobility of the substance available. May be harmful to plant growth, blooming and fruit formation. |
|----------------|---|

### 12.5. Results of PBT and vPvB assessment

#### Component

|   |   |
|---|---|
| tris(hydroxymethyl)aminomethane (77-86-1) | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII<br>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |
| boric acid (10043-35-3)                   | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII<br>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Waste treatment methods.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

### 14.1. UN number

|               |                  |
|---------------|------------------|
| UN-No. (ADR)  | : Not applicable |
| UN-No. (IMDG) | : Not applicable |
| UN-No. (IATA) | : Not applicable |
| UN-No. (ADN)  | : Not applicable |
| UN-No. (RID)  | : Not applicable |

### 14.2. UN proper shipping name

|                             |                  |
|-----------------------------|------------------|
| Proper Shipping Name (ADR)  | : Not applicable |
| Proper Shipping Name (IMDG) | : Not applicable |
| Proper Shipping Name (IATA) | : Not applicable |
| Proper Shipping Name (ADN)  | : Not applicable |
| Proper Shipping Name (RID)  | : Not applicable |

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### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR) : Not applicable

#### IMDG

Transport hazard class(es) (IMDG) : Not applicable

#### IATA

Transport hazard class(es) (IATA) : Not applicable

#### ADN

Transport hazard class(es) (ADN) : Not applicable

#### RID

Transport hazard class(es) (RID) : Not applicable

### 14.4. Packing group

Packing group (ADR) : Not applicable

Packing group (IMDG) : Not applicable

Packing group (IATA) : Not applicable

Packing group (ADN) : Not applicable

Packing group (RID) : Not applicable

### 14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

### 14.6. Special precautions for user

#### Overland transport

Not applicable

#### Transport by sea

Not applicable

#### Air transport

Not applicable

#### Inland waterway transport

Not applicable

#### Rail transport

Not applicable

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains a substance on the REACH candidate list in concentration  $\geq 0.1\%$  or with a lower specific limit: Boric acid (EC 233-139-2, CAS 10043-35-3)

Contains no REACH Annex XIV substances

Contains no substance subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

Substance(s) are not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC.

#### 15.1.2. National regulations

No additional information available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

#### Full text of H- and EUH-statements:

|          |  |
|----------|--|
| Repr. 1B | Reproductive toxicity, Category 1B                 |
| H360FD   | May damage fertility. May damage the unborn child. |

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|        |   |
|--------|---|
| EUH210 | Safety data sheet available on request. |
|--------|---|

Safety Data Sheet applicable for regions : GB - United Kingdom

SDS EU (REACH Annex II)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*