



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
REACH Regulation (EC) No 1907/2006, as retained in UK law by (SI 2019/758 as amended)

Revision date 25-Nov-2024

Version 1

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

### 1.1. Product identifier

Product name Monarch® Buffer BY

Product No T1121

Pure substance/mixture Mixture

Contains Guanidine Thiocyanate

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

Recommended use This product is for research and development only

Uses advised against

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

#### Supplier

New England BioLabs  
240 County Road  
Ipswich, MA 01938  
USA

For further information, please contact

Contact Point 978-927-5054, 800-632-5227 (toll free)

E-mail address info@neb.com

### 1.4. Emergency telephone number

Emergency Telephone Chemtrec +44 20 3885 0382

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

GB CLP (SI 2020/1567 as amended)

|                                                |                     |
|------------------------------------------------|---------------------|
| Acute toxicity - Oral                          | Category 4 - (H302) |
| Skin corrosion                                 | Category 1 - (H315) |
| Serious eye damage                             | Category 1 - (H319) |
| Hazardous to the aquatic environment - chronic | Category 3 - (H412) |

**2.2. Label elements**

Contains Guanidine Thiocyanate

**Signal word**

Danger

**Hazard statements**

H302 - Harmful if swallowed.

H314 - Causes severe skin burns and eye damage.

H412 - Harmful to aquatic life with long lasting effects.

**Precautionary statements**

P260 - Do not breathe dust, fume, gas, mist, vapors and spray.

P280 - Wear protective gloves/protective clothing and eye/face protection.

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 - Immediately call a POISON CENTER or doctor.

P321 - Specific treatment (see .? on this label).

P331 - Do NOT induce vomiting.

**Unknown acute toxicity****Additional information**

This product requires child resistant fastenings if supplied to the general public. This product requires tactile warnings if supplied to the general public.

**2.3. Other hazards****Other hazards**

No information available.

## SECTION 3: Composition/information on ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

| Chemical name                     | Weight-% | EC No (EU Index No) | UK REACH registration number | Classification according to GB CLP (SI 2020/1567 as amended) | Specific concentration limit (SCL) | M-Factor | M-Factor (long-term) | Notes |
|-----------------------------------|----------|---------------------|------------------------------|--------------------------------------------------------------|------------------------------------|----------|----------------------|-------|
| Guanidine Thiocyanate<br>593-84-0 | 50 - 60% | 209-812-1           | -                            | -                                                            | -                                  | -        | -                    | -     |

**Full text of H- and EUH-phrases: see section 16**

This product does not contain candidate substances of very high concern at a concentration  $\geq 0.1\%$  (UK REACH Article 59)

## SECTION 4: First aid measures

**4.1. Description of first aid measures**

|                                           |                                                                                                                                                                                                                                                                 |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>General advice</b>                     | IF exposed or concerned: Get medical advice/attention. If symptoms persist, call a physician.                                                                                                                                                                   |
| <b>Inhalation</b>                         | If symptoms persist, call a physician. Remove to fresh air.                                                                                                                                                                                                     |
| <b>Eye contact</b>                        | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. If symptoms persist, call a physician. |
| <b>Skin contact</b>                       | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.                                                                                                                    |
| <b>Ingestion</b>                          | Do NOT induce vomiting. Clean mouth with water. Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.                                                                                    |
| <b>Self-protection of the first aider</b> | Remove all sources of ignition. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.                                                     |

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

|                            |                                                                                                |
|----------------------------|------------------------------------------------------------------------------------------------|
| <b>Symptoms</b>            | Prolonged contact may cause redness and irritation. Vapors may cause drowsiness and dizziness. |
| <b>Effects of Exposure</b> | No information available.                                                                      |

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

|                           |                        |
|---------------------------|------------------------|
| <b>Note to physicians</b> | Treat symptomatically. |
|---------------------------|------------------------|

**SECTION 5: Firefighting measures****5.1. Extinguishing media**

|                                       |                                                                                                         |
|---------------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Suitable Extinguishing Media</b>   | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| <b>Large Fire</b>                     | CAUTION: Use of water spray when fighting fire may be inefficient.                                      |
| <b>Unsuitable extinguishing media</b> | Do not scatter spilled material with high pressure water streams.                                       |

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

|                                                   |                                                                                                                                        |
|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <b>Specific hazards arising from the chemical</b> | The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. |
|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|

**5.3. Advice for firefighters**

|                                                                       |                                                                                                                                    |
|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| <b>Special protective equipment and precautions for fire-fighters</b> | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |
|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**Other information** Refer to protective measures listed in Sections 7 and 8.

**For emergency responders** Use personal protection recommended in Section 8.

#### **6.2. Environmental precautions**

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

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

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Take up mechanically, placing in appropriate containers for disposal.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

#### **6.4. Reference to other sections**

**Reference to other sections** See section 8 for more information. See section 13 for more information.

### **SECTION 7: Handling and storage**

#### **7.1. Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

**General hygiene considerations** Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

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

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Protect from moisture. Store locked up. Store away from other materials.

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

**Risk management methods [RMM]** The information required is contained in this Safety Data Sheet.

### **SECTION 8: Exposure controls/personal protection**

#### **8.1. Control parameters**

**Exposure Limits** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Biological occupational exposure limits** This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

#### Derived No Effect Level (DNEL) - Workers

| Chemical name                     | Oral | Dermal                                             | Inhalation                                                            |
|-----------------------------------|------|----------------------------------------------------|-----------------------------------------------------------------------|
| Guanidine Thiocyanate<br>593-84-0 |      | 0.31 mg/kg bw/day [4] [6]                          | 1.092 mg/m <sup>3</sup> [4] [6]<br>3.28 mg/m <sup>3</sup> [4] [7]     |
| Sodium Acetate<br>127-09-3        |      | 12 mg/kg bw/day [4] [6]<br>72 mg/kg bw/day [4] [7] | 1057.9 mg/m <sup>3</sup> [4] [6]<br>6347.36 mg/m <sup>3</sup> [4] [7] |

#### Notes

[4] Systemic health effects.  
[6] Long term.  
[7] Short term.

#### Derived No Effect Level (DNEL) - General Public

| Chemical name                     | Oral                                              | Dermal                                             | Inhalation                                                            |
|-----------------------------------|---------------------------------------------------|----------------------------------------------------|-----------------------------------------------------------------------|
| Guanidine Thiocyanate<br>593-84-0 | 0.155 mg/kg bw/day [4] [6]                        |                                                    | 0.27 mg/m <sup>3</sup> [4] [6]                                        |
| Sodium Acetate<br>127-09-3        | 6 mg/kg bw/day [4] [6]<br>36 mg/kg bw/day [4] [7] | 36 mg/kg bw/day [4] [6]<br>36 mg/kg bw/day [4] [7] | 521.73 mg/m <sup>3</sup> [4] [6]<br>3103.45 mg/m <sup>3</sup> [4] [7] |

#### Notes

[4] Systemic health effects.  
[6] Long term.  
[7] Short term.

#### Predicted No Effect Concentration (PNEC)

| Chemical name                     | Freshwater | Freshwater<br>(intermittent release) | Marine water | Marine water<br>(intermittent release) | Air |
|-----------------------------------|------------|--------------------------------------|--------------|----------------------------------------|-----|
| Guanidine Thiocyanate<br>593-84-0 | 42.4 µg/L  | 424 µg/L                             | 4.24 µg/L    | 424 µg/L                               |     |
| Sodium Acetate<br>127-09-3        | 85.9 mg/L  | 130 mg/L                             | 8.59 mg/L    |                                        |     |

| Chemical name                     | Freshwater<br>sediment   | Marine sediment           | Sewage treatment | Soil               | Food chain |
|-----------------------------------|--------------------------|---------------------------|------------------|--------------------|------------|
| Guanidine Thiocyanate<br>593-84-0 | 165 µg/kg sediment<br>dw | 16.5 µg/kg sediment<br>dw | 20 mg/L          | 8.03 µg/kg soil dw |            |
| Sodium Acetate<br>127-09-3        | 317 mg/kg sediment<br>dw | 31.7 mg/kg<br>sediment dw | 200 mg/L         | 13.1 mg/kg soil dw |            |

## 8.2. Exposure controls

**Engineering controls** No information available.

**Individual protection measures,  
such as personal protective  
equipment**

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Eye/face protection</b>            | Tight sealing safety goggles. Face protection shield.                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Hand protection</b>                | Wear suitable gloves. Impervious gloves.                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Skin and body protection</b>       | Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Respiratory protection</b>         | No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.                                                                                                                                                                                                                                                                              |
| <b>General hygiene considerations</b> | Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. |

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

|                       |                          |
|-----------------------|--------------------------|
| <b>Physical state</b> | Liquid                   |
| <b>Appearance</b>     | Clear                    |
| <b>Color</b>          | No information available |
| <b>Odor</b>           | None.                    |
| <b>Odor threshold</b> | No information available |

| <b><u>Property</u></b>                         | <b><u>Values</u></b>     | <b><u>Remarks • Method</u></b> |
|------------------------------------------------|--------------------------|--------------------------------|
| <b>Melting point / freezing point</b>          | No data available        | None known                     |
| <b>Initial boiling point and boiling range</b> | No data available        | None known                     |
| <b>Flammability (solid, gas)</b>               | No data available        | None known                     |
| <b>Flammability Limit in Air</b>               |                          | None known                     |
| <b>Upper flammability or explosive limits</b>  | No data available        |                                |
| <b>Lower flammability or explosive limits</b>  | No data available        |                                |
| <b>Flash point</b>                             | No data available        | None known                     |
| <b>Autoignition temperature</b>                | No data available        | None known                     |
| <b>Decomposition temperature</b>               |                          | None known                     |
| <b>pH</b>                                      | 5                        | None known                     |
| <b>pH (as aqueous solution)</b>                | No data available        | None known                     |
| <b>Kinematic viscosity</b>                     | No data available        | None known                     |
| <b>Dynamic viscosity</b>                       | No data available        | None known                     |
| <b>Water solubility</b>                        | No data available        | None known                     |
| <b>Solubility(ies)</b>                         | No data available        | None known                     |
| <b>Partition coefficient</b>                   | No data available        | None known                     |
| <b>Vapor pressure</b>                          | No data available        | None known                     |
| <b>Relative density</b>                        | No data available        | None known                     |
| <b>Bulk density</b>                            | No data available        |                                |
| <b>Liquid Density</b>                          | No data available        |                                |
| <b>Vapor density</b>                           | No data available        | None known                     |
| <b>Particle characteristics</b>                |                          |                                |
| <b>Particle Size</b>                           | No information available |                                |
| <b>Particle Size Distribution</b>              | No information available |                                |
| <b>Explosive properties</b>                    | No information available |                                |

Oxidizing properties No information available

## 9.2. Other information

# SECTION 10: Stability and reactivity

## 10.1. Reactivity

Reactivity No information available.

## 10.2. Chemical stability

Stability Stable under normal conditions.

### Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

## 10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

## 10.4. Conditions to avoid

Conditions to avoid Exposure to air or moisture over prolonged periods.

## 10.5. Incompatible materials

Incompatible materials Acids. Bases. Oxidizing agent.

## 10.6. Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

# SECTION 11: Toxicological information

## 11.1. Toxicological information

### Information on likely routes of exposure

#### Product Information

|              |                                                                                                                                                                                 |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Inhalation   | Specific test data for the substance or mixture is not available. Symptoms of overexposure are dizziness, headache, tiredness, nausea, unconsciousness, cessation of breathing. |
| Eye contact  | Specific test data for the substance or mixture is not available. Causes serious eye irritation.                                                                                |
| Skin contact | Specific test data for the substance or mixture is not available. May cause irritation.                                                                                         |
| Ingestion    | Specific test data for the substance or mixture is not available. May cause drowsiness or dizziness.                                                                            |

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

Symptoms Redness. Coughing and/ or wheezing. Prolonged contact may cause redness and irritation.

Acute toxicity Harmful if swallowed.

### Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

|                 |                  |
|-----------------|------------------|
| ATEmix (oral)   | 930.20 mg/kg     |
| ATEmix (dermal) | 114,219.50 mg/kg |

|                               |                |
|-------------------------------|----------------|
| ATEmix (inhalation-gas)       | 99,999.00 ppm  |
| ATEmix (inhalation-vapor)     | 99,999.00 mg/l |
| ATEmix (inhalation-dust/mist) | 64.00 mg/l     |

**Unknown acute toxicity****Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** May cause skin irritation.

**Serious eye damage/eye irritation** Causes serious eye damage. Causes burns. Classification based on data available for ingredients.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

**Other adverse effects** No information available.

**SECTION 12: Ecological information****12.1. Toxicity**

**Ecotoxicity** Harmful to aquatic life with long lasting effects.

**12.2. Persistence and degradability**

**Persistence and degradability** No information available.

**12.3. Bioaccumulative potential**

**Bioaccumulation** There is no data for this product.

**12.4. Mobility in soil**

**Mobility in soil** No information available.

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

**PBT and vPvB assessment** The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.

| Chemical name         | PBT and vPvB assessment         |
|-----------------------|---------------------------------|
| Guanidine Thiocyanate | The substance is not PBT / vPvB |

**12.6. Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

|                                     |                                                                                                                 |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Waste from residues/unused products | Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. |
| Contaminated packaging              | Do not reuse empty containers.                                                                                  |

## SECTION 14: Transport information

### IATA

|                                   |                |
|-----------------------------------|----------------|
| 14.1 UN number or ID number       | Not regulated  |
| 14.2                              |                |
| 14.3 Transport hazard class(es)   | Not regulated  |
| 14.4 Packing group                | Not regulated  |
| 14.5 Environmental hazard         | Not applicable |
| 14.6 Special precautions for user |                |
| Special Provisions                | None           |

### IMDG

|                                                              |                          |
|--------------------------------------------------------------|--------------------------|
| 14.1 UN number or ID number                                  | Not regulated            |
| 14.2                                                         |                          |
| 14.3 Transport hazard class(es)                              | Not regulated            |
| 14.4 Packing group                                           | Not regulated            |
| 14.5 Environmental hazard                                    | Not applicable           |
| 14.6 Special precautions for user                            |                          |
| Special Provisions                                           | None                     |
| 14.7 Maritime transport in bulk according to IMO instruments | No information available |

### RID

|                                   |                |
|-----------------------------------|----------------|
| 14.1 UN number or ID number       | Not regulated  |
| 14.2                              |                |
| 14.3 Transport hazard class(es)   | Not regulated  |
| 14.4 Packing group                | Not regulated  |
| 14.5 Environmental hazard         | Not applicable |
| 14.6 Special precautions for user |                |
| Special Provisions                | None           |

### ADR

|                                   |                |
|-----------------------------------|----------------|
| 14.1 UN number or ID number       | Not regulated  |
| 14.2                              |                |
| 14.3 Transport hazard class(es)   | Not regulated  |
| 14.4 Packing group                | Not regulated  |
| 14.5 Environmental hazard         | Not applicable |
| 14.6 Special precautions for user |                |
| Special Provisions                | None           |

## SECTION 15: Regulatory information

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

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (UK REACH - Annex XIV). This product does not contain substances subject to restriction (UK REACH - Annex XVII).

**Persistent Organic Pollutants**

Not applicable

**Export Notification requirements**

Not applicable

**Named dangerous substances per COMAH (SI 2015/483 as amended)**

Not applicable

**The Ozone-Depleting Substances Regulations 2015**

Not applicable

**The Biocidal Products Regulations 2001 (as amended)**

Not applicable

**The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended)**

Not applicable

**Poisons and Explosive Precursors**

Not applicable

**International Inventories**

|                      |                                                  |
|----------------------|--------------------------------------------------|
| <b>TSCA</b>          | Contact supplier for inventory compliance status |
| <b>DSL/NDSL</b>      | Contact supplier for inventory compliance status |
| <b>EINECS/ELINCS</b> | Contact supplier for inventory compliance status |
| <b>ENCS</b>          | Contact supplier for inventory compliance status |
| <b>IECSC</b>         | Contact supplier for inventory compliance status |
| <b>KECL</b>          | Contact supplier for inventory compliance status |
| <b>PICCS</b>         | Contact supplier for inventory compliance status |
| <b>AIIC</b>          | Contact supplier for inventory compliance status |
| <b>NZIoC</b>         | Contact supplier for inventory compliance status |
| <b>TCSI</b>          | Contact supplier for inventory compliance status |

**Legend:**

|                      |                                                                                                    |
|----------------------|----------------------------------------------------------------------------------------------------|
| <b>TSCA</b>          | - United States Toxic Substances Control Act Section 8(b) Inventory                                |
| <b>DSL/NDSL</b>      | - Canadian Domestic Substances List/Non-Domestic Substances List                                   |
| <b>EINECS/ELINCS</b> | - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances |
| <b>ENCS</b>          | - Japan Existing and New Chemical Substances                                                       |
| <b>IECSC</b>         | - China Inventory of Existing Chemical Substances                                                  |
| <b>KECL</b>          | - Korean Existing Chemicals Inventory                                                              |
| <b>PICCS</b>         | - Philippines Inventory of Chemicals and Chemical Substances                                       |
| <b>AICS</b>          | - Australian Inventory of Chemical Substances                                                      |
| <b>NZIoC</b>         | - New Zealand Inventory of Chemicals                                                               |
| <b>TCSI</b>          | - Taiwan Chemical Substance Inventory                                                              |

**15.2. Chemical safety assessment**

**Chemical Safety Report** No information available

**SECTION 16: Other information****Key or legend to abbreviations and acronyms used in the safety data sheet****Legend**

SVHC: Substances of Very High Concern for Authorization:  
PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances

vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances  
 STOT: Specific Target Organ Toxicity  
 ATE: Acute Toxicity Estimate  
 LC50: 50% Lethal Concentration  
 LD50: 50% Lethal Dose

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

|         |                             |      |                                  |
|---------|-----------------------------|------|----------------------------------|
| TWA     | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value         | Sk*  | Skin designation                 |
| +       | Sensitizers                 |      |                                  |

**Classification procedure**

|                                                              |                    |
|--------------------------------------------------------------|--------------------|
| Classification according to GB CLP (SI 2020/1567 as amended) | Method Used        |
| Acute oral toxicity                                          | Calculation method |
| Acute dermal toxicity                                        | Calculation method |
| Acute inhalation toxicity - gas                              | Calculation method |
| Acute inhalation toxicity - vapor                            | Calculation method |
| Acute inhalation toxicity - dust/mist                        | Calculation method |
| Skin corrosion/irritation                                    | Calculation method |
| Serious eye damage/eye irritation                            | Calculation method |
| Respiratory sensitization                                    | Calculation method |
| Skin sensitization                                           | Calculation method |
| Mutagenicity                                                 | Calculation method |
| Carcinogenicity                                              | Calculation method |
| Reproductive toxicity                                        | Calculation method |
| STOT - single exposure                                       | Calculation method |
| STOT - repeated exposure                                     | Calculation method |
| Acute aquatic toxicity                                       | Calculation method |
| Chronic aquatic toxicity                                     | Calculation method |
| Aspiration hazard                                            | Calculation method |
| Ozone                                                        | Calculation method |

**Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)  
 U.S. Environmental Protection Agency ChemView Database  
 European Food Safety Authority (EFSA)  
 European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA\_RAC)  
 European Chemicals Agency (ECHA) (ECHA\_API)  
 Environmental Protection Agency  
 Acute Exposure Guideline Level(s) (AEGL(s))  
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
 U.S. Environmental Protection Agency High Production Volume Chemicals  
 Food Research Journal  
 Hazardous Substance Database  
 International Uniform Chemical Information Database (IUCLID)  
 National Institute of Technology and Evaluation (NITE)  
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
 NIOSH (National Institute for Occupational Safety and Health)  
 National Library of Medicine's ChemID Plus (NLM CIP)  
 National Library of Medicine's PubMed database (NLM PUBMED)  
 U.S. National Toxicology Program (NTP)  
 New Zealand's Chemical Classification and Information Database (CCID)  
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
 Organization for Economic Co-operation and Development Screening Information Data Set  
 World Health Organization

**Revision date** 25-Nov-2024

**Further information** SDS is valid 3 years from revision date. Contact info@neb.com for latest revision

**This SDS complies with the requirements of UK REACH Regulations SI 2019/758 (as amended)**

**Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work**

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge and belief at the date of publication. This information is intended only as a guide for safe handling, use, processing, storage, transportation, disposal and release and should not be taken as a warranty or quality specification. The information relates only to the specific material and may not be valid for such material used in combination with any other materials or in any process unless expressly specified in the text. New England Biolabs will not be liable for any damages resulting from handling or contact with the product.

**End of Safety Data Sheet**