

Revision date 24-Feb-2023

Version 1

## 1. Identification

### Product identifier

**Product name** Monarch<sup>®</sup> Buffer BZ

### Other means of identification

**Product No** T1114

**Synonyms** None

### Recommended use of the chemical and restrictions on use

**Recommended use** This product is for research and development only

### Restrictions on use

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

#### Supplier Address

New England BioLabs  
240 County Road  
Ipswich, MA 01938  
USA

### Emergency telephone number

**Company Phone Number** 978-927-5054, 800-632-5227 (toll free)

**Telefax** 978-921-1350

**E-mail address** info@neb.com

**24 Hour Emergency Phone Number** 978-380-2125

## 2. Hazard(s) identification

### Classification

|                                   |             |
|-----------------------------------|-------------|
| Acute toxicity - Oral             | Category 4  |
| Skin corrosion/irritation         | Category 2  |
| Serious eye damage/eye irritation | Category 2A |

**Appearance** Clear

**Physical state** Liquid

**Odor** None

### Label elements

#### **Warning**

#### **Hazard statements**

Harmful if swallowed  
Causes skin irritation  
Causes serious eye irritation



#### **Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Wear protective gloves, eye protection and face protection

#### **Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
If eye irritation persists: Get medical advice and attention

#### **Skin**

IF ON SKIN: Wash with plenty of water and soap  
If skin irritation occurs: Get medical advice and attention  
Take off contaminated clothing and wash it before reuse

#### **Ingestion**

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell  
Rinse mouth

#### **Precautionary Statements - Disposal**

Dispose of contents and container to an approved waste disposal plant

### Other information

May be harmful in contact with skin.

### 3. Composition/information on ingredients

#### Substance

Not applicable.

#### Mixture

| Chemical name           | CAS No       | Weight-% | Hazardous Material Information Review Act registry number (HMIRA registry #) | Date HMIRA filed and date exemption granted (if applicable) |
|-------------------------|--------------|----------|--|---|
| Guanidine Hydrochloride | 50-01-1      | 60 - 80  | -  | -   |
| Trade Secret            | Trade secret | 1 - 5    | -  | -   |

### 4. First-aid measures

#### Description of first aid measures

|   |   |
|---|---|
| <b>General advice</b>                     | Show this safety data sheet to the doctor in attendance.  |
| <b>Inhalation</b>                         | Remove to fresh air. Get medical attention immediately if symptoms occur.   |
| <b>Eye contact</b>                        | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists. |
| <b>Skin contact</b>                       | Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.  |
| <b>Ingestion</b>                          | Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician.   |
| <b>Self-protection of the first aider</b> | Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).   |

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

**Symptoms** May cause redness and tearing of the eyes. Burning sensation.

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

**Note to physicians** Treat symptomatically.

### 5. Fire-fighting measures

|   |   |
|---|---|
| <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.                                       |
| <b>Specific hazards arising from the chemical</b> | No information available.   |
| <b>Explosion data</b>                             |   |
| <b>Sensitivity to mechanical impact</b>           | None.   |
| <b>Sensitivity to static discharge</b>            | None.   |

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

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required.

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

### 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** Pick up and transfer to properly labeled containers.

## 7. Handling and storage

### 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. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

### 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.

## 8. Exposure controls/personal protection

### 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

### Appropriate engineering controls

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

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

**Eye/face protection** If splashes are likely to occur, wear safety glasses with side-shields.

**Hand protection** Wear suitable gloves. Impervious gloves.

**Skin and body protection** Wear suitable protective clothing. Long sleeved clothing.

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**General hygiene considerations** Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

|                |                          |
|----------------|--------------------------|
| Physical state | Liquid                   |
| Appearance     | Clear                    |
| Color          | No information available |
| Odor           | None                     |
| Odor threshold | No information available |

| <u>Property</u>                         | <u>Values</u>     | <u>Remarks • Method</u> |
|---|-------------------|-------------------------|
| pH                                      | No data available | None known              |
| Melting point / freezing point          | No data available | None known              |
| Initial boiling point and boiling range | No data available | None known              |
| Flash point                             | No data available | None known              |
| Evaporation rate                        | No data available | None known              |
| Flammability (solid, gas)               | No data available | None known              |
| Flammability Limit in Air               |                   | None known              |
| Upper flammability or explosive limits  | No data available |                         |
| Lower flammability or explosive limits  | No data available |                         |
| Vapor pressure                          | No data available | None known              |
| Vapor density                           | No data available | None known              |
| Relative density                        | No data available | None known              |
| Water solubility                        | No data available | None known              |
| Solubility(ies)                         | No data available | None known              |
| Partition coefficient                   | No data available | None known              |
| Autoignition temperature                | No data available | None known              |
| Decomposition temperature               | No data available | None known              |
| Kinematic viscosity                     | No data available | None known              |
| Dynamic viscosity                       | No data available | None known              |

### Other information

|                      |                          |
|----------------------|--------------------------|
| Explosive properties | No information available |
| Oxidizing properties | No information available |
| Softening point      | No information available |
| Molecular weight     | No information available |
| VOC content          | No information available |
| Liquid Density       | No information available |
| Bulk density         | No information available |

## 10. Stability and reactivity

|   |  |
|---|--|
| <b>Reactivity</b>                         | No information available.                            |
| <b>Chemical stability</b>                 | Stable under normal conditions.                      |
| <b>Possibility of hazardous reactions</b> | None under normal processing.                        |
| <b>Conditions to avoid</b>                | None known based on information supplied.            |
| <b>Incompatible materials</b>             | Strong acids. Strong bases. Strong oxidizing agents. |
| <b>Hazardous decomposition products</b>   | None known based on information supplied.            |

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

|                     |  |
|---------------------|--|
| <b>Inhalation</b>   | Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.   |
| <b>Eye contact</b>  | Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.                                  |
| <b>Skin contact</b> | Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).   |
| <b>Ingestion</b>    | Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. (based on components). |

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

**Symptoms** Redness. May cause redness and tearing of the eyes.

### Acute toxicity

#### Numerical measures of toxicity

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

|                        |                |
|------------------------|----------------|
| <b>ATEmix (oral)</b>   | 637.40 mg/kg   |
| <b>ATEmix (dermal)</b> | 2,829.30 mg/kg |

#### Component Information

| Chemical name                      | Oral LD50            | Dermal LD50             | Inhalation LC50                                      |
|------------------------------------|----------------------|-------------------------|--|
| Guanidine Hydrochloride<br>50-01-1 | = 475 mg/kg ( Rat )  | > 2000 mg/kg ( Rabbit ) | = 3.181 mg/L ( Rat ) 4 h<br>= 7.655 mg/L ( Rat ) 4 h |
| Trade Secret                       | = 2100 mg/kg ( Rat ) | -                       | -  |

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

|  |  |
|--|--|
| <b>Skin corrosion/irritation</b>         | Classification based on data available for ingredients. Causes skin irritation.        |
| <b>Serious eye damage/eye irritation</b> | Classification based on data available for ingredients. Causes serious eye irritation. |
| <b>Respiratory or skin sensitization</b> | No information available.  |
| <b>Germ cell mutagenicity</b>            | No information available.  |
| <b>Carcinogenicity</b>                   | No information available.  |
| <b>Reproductive toxicity</b>             | No information available.  |
| <b>STOT - single exposure</b>            | No information available.  |

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

**Aspiration hazard** No information available.

## 12. Ecological information

### Ecotoxicity

**Persistence and degradability** No information available.

### Bioaccumulation

#### Component Information

| Chemical name                      | Partition coefficient |
|------------------------------------|-----------------------|
| Guanidine Hydrochloride<br>50-01-1 | -1.7                  |

**Mobility in soil** No information available.

### Other adverse effects

## 13. Disposal considerations

### 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.

**California waste information** This product contains one or more substances that are listed with the State of California as a hazardous waste.

## 14. Transport information

**DOT** Not regulated

## 15. Regulatory information

### Regulatory information

#### International Regulations

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

**International Inventories**

**TSCA** Contact supplier for inventory compliance status.

**DSL/NDSL** Contact supplier for inventory compliance status.  
**EINECS/ELINCS** Contact supplier for inventory compliance status.  
**ENCS** Contact supplier for inventory compliance status.  
**IECSC** Contact supplier for inventory compliance status.  
**KECL** Contact supplier for inventory compliance status.  
**PICCS** Contact supplier for inventory compliance status.  
**AIC** Contact supplier for inventory compliance status.  
**NZIoC** Contact supplier for inventory compliance status.

**Legend:**

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

**US Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

| Chemical name      | New Jersey | Massachusetts | Pennsylvania |
|--------------------|------------|---------------|--------------|
| Water<br>7732-18-5 | -          | -             | X            |
| Trade Secret       | X          | X             | X            |

**U.S. EPA Label Information**



EPA Pesticide Registration Number Not applicable

**16. Other information**

|             |                         |                       |                           |                              |
|-------------|-------------------------|-----------------------|---------------------------|------------------------------|
| <b>NFPA</b> | <b>Health hazards</b> 2 | <b>Flammability</b> 0 | <b>Instability</b> 0      | <b>Special hazards</b> -     |
| <b>HMIS</b> | <b>Health hazards</b> 2 | <b>Flammability</b> 0 | <b>Physical hazards</b> 0 | <b>Personal protection</b> X |

**Key or legend to abbreviations and acronyms used in the safety data sheet**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

**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)  
 EPA (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)  
 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

**Prepared by** Environmental, Health and Safety, 978-927-5054

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**Revision note** No information available.

**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**

**North America SDS version information - NGHS**

GHS Revision 8

**North America**

Partial process, including GHS Wizard, NO TW

| Chemical name | California Hazardous Waste Status |
|---------------|-----------------------------------|
| Trade Secret  | Toxic<br>Ignitable<br>Reactive    |