# SAFETY DATA SHEET

Revision date 28-Feb-2024 Version 3

## 1. Identification

Product identifier

| | |
|---|---|
| Product name | Monarch® Buffer B2 |

Other means of identification

| | |
|---|---|
| Product No | T1112 |
| UN/ID No | UN1824 |
| 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 | Chemtrec +1 703-741-5970 |

## 2. Hazard(s) identification

Classification

| | |
|---|---|
| Skin corrosion/irritation | Category 1 |
| Serious eye damage/eye irritation | Category 1 |

Label elements

Danger

Hazard statements
Causes severe skin burns and eye damage.

Precautionary Statements - Prevention
Do not breathe dusts or mists.
Wash face, hands and any exposed skin thoroughly after handling.
Wear protective gloves, protective clothing, eye protection and face protection.
Precautionary Statements - Response
Immediately call a POISON CENTER or doctor.
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor.
Skin
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water and then shower.
Wash contaminated clothing before reuse.
Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Immediately call a POISON CENTER or doctor.
Ingestion
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Precautionary Statements - Storage
Store locked up.
Precautionary Statements - Disposal
Dispose of contents and container to an approved waste disposal plant.

Other information
No information available.

## 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) |
|---|---|---|---|---|
| Sodium Dodecyl Sulfate | 151-21-3 | 0.5 - 1.5 | | |
| Sodium Hydroxide | 1310-73-2 | 0.1 - 1 | | |

## 4. First-aid measures

Description of first aid measures

General advice — Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Inhalation — Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical attention.

Eye contact — 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. Get immediate medical attention.

Skin contact — Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical attention.

Ingestion — Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.

Self-protection of the first aider — Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms — Burning sensation.

Effects of Exposure — No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians — Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

## 5. Fire-fighting measures

| | |
|---|---|
| Suitable Extinguishing Media | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Large Fire | CAUTION: Use of water spray when fighting fire may be inefficient. |
| Unsuitable extinguishing media | Do not scatter spilled material with high pressure water streams. |
| Specific hazards arising from the chemical | The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. |
| Explosion data | |
| Sensitivity to mechanical impact | None. |
| Sensitivity to static discharge | 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 | 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. |

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. 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. |

Conditions for safe storage, including any incompatibilities

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

## 8. Exposure controls/personal protection

Control parameters

Exposure Limits

| Chemical name | ACGIH TLV | OSHA PEL | NIOSH |
|---|---|---|---|
| Sodium Hydroxide<br>1310-73-2 | Ceiling: 2 mg/m³ | TWA: 2 mg/m³<br>(vacated) Ceiling: 2 mg/m³ | IDLH: 10 mg/m³<br>Ceiling: 2 mg/m³ |

| Chemical name | Alberta | British Columbia | Ontario | Quebec |
|---|---|---|---|---|
| Sodium Hydroxide<br>1310-73-2 | Ceiling: 2 mg/m³ | Ceiling: 2 mg/m³ | CEV: 2 mg/m³ | Ceiling: 2 mg/m³ |

| Chemical name | Manitoba | New Brunswick | Newfoundland and Labrador | Nova Scotia |
|---|---|---|---|---|
| Sodium Hydroxide | Ceiling: 2 mg/m³ | Ceiling: 2 mg/m³ | Ceiling: 2 mg/m³ | Ceiling: 2 mg/m³ |

| Chemical name | Nunavut | Prince Edward Island | Saskatchewan | Yukon |
|---|---|---|---|---|
| Sodium Hydroxide | Ceiling: 2 mg/m³ | Ceiling: 2 mg/m³ | Ceiling: 2 mg/m³ | Ceiling: 2 mg/m³ |

Appropriate engineering controls

Engineering controls: Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection: Tight sealing safety goggles. Face protection shield.

Hand protection: Wear suitable gloves. Impervious gloves.

Skin and body protection: Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

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: 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.

## 9. Physical and chemical properties

Information on basic physical and chemical properties

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

| Property | Values | 5HPDUNV‡0HMKRG |
|---|---|---|
| pH | 13 | 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

| | |
|---|---|
| Reactivity | No information available. |
| Chemical stability | Stable under normal conditions. |
| Possibility of hazardous reactions | None under normal processing. |
| Conditions to avoid | Exposure to air or moisture over prolonged periods. |
| Incompatible materials | Acids. Bases. Oxidizing agent. |
| Hazardous decomposition products | None known based on information supplied. |

## 11. Toxicological information

Information on likely routes of exposure

Product Information

| | |
|---|---|
| Inhalation | Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. |
| Eye contact | Specific test data for the substance or mixture is not available. Causes serious eye damage. (based on components). Corrosive to the eyes and may cause severe damage including blindness. May cause irreversible damage to eyes. |
| Skin contact | Specific test data for the substance or mixture is not available. Corrosive. (based on |

components). Causes burns.

Ingestion — Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms — Redness. Burning. May cause blindness. Coughing and/ or wheezing.

Acute toxicity .

Numerical measures of toxicity

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

| | |
|---|---|
| ATEmix (oral) | 103,040.00 mg/kg |
| ATEmix (dermal) | 16,000.00 mg/kg |
| ATEmix (inhalation-gas) | 99,999.00 ppm |
| ATEmix (inhalation-vapor) | 99,999.00 mg/l |
| ATEmix (inhalation-dust/mist) | 78.00 mg/l |

Component Information

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Sodium Dodecyl Sulfate<br>151-21-3 | = 1288 mg/kg ( Rat ) | = 200 mg/kg ( Rabbit ) | > 3900 mg/m³ ( Rat ) 1 h |
| Sodium Hydroxide<br>1310-73-2 | = 325 mg/kg ( Rat ) | = 1350 mg/kg ( Rabbit ) | |

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

Skin corrosion/irritation — Classification based on data available for ingredients. Causes severe skin burns and eye damage.

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

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.

## 12. Ecological information

Ecotoxicity

| Chemical name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|---|---|---|---|---|
| Sodium Dodecyl Sulfate 151-21-3 | EC50: =53mg/L (72h, Desmodesmus subspicatus)<br>EC50: 30 100mg/L (96h, Desmodesmus subspicatus)<br>EC50: =117mg/L (96h, Pseudokirchneriella subcapitata)<br>EC50: 3.59 - 15.6mg/L (96h, Pseudokirchneriella subcapitata) | LC50: 15 18.9mg/L (96h, Pimephales promelas)<br>LC50: 8 - 12.5mg/L (96h, Pimephales promelas)<br>LC50: 22.1 - 22.8mg/L (96h, Pimephales promelas)<br>LC50: 4.3 - 8.5mg/L (96h, Oncorhynchus mykiss)<br>LC50: =4.62mg/L (96h, Oncorhynchus mykiss)<br>LC50: =4.2mg/L (96h, Oncorhynchus mykiss)<br>LC50: =7.97mg/L (96h, Brachydanio rerio)<br>LC50: 9.9 - 20.1mg/L (96h, Brachydanio rerio)<br>LC50: 4.06 - 5.75mg/L (96h, Lepomis macrochirus)<br>LC50: 4.2 - 4.8mg/L (96h, Lepomis macrochirus)<br>LC50: =4.5mg/L (96h, Lepomis macrochirus)<br>LC50: 5.8 - 7.5mg/L (96h, Pimephales promelas)<br>LC50: 10.2 - 22.5mg/L (96h, Pimephales promelas)<br>LC50: 6.2 - 9.6mg/L (96h, Pimephales promelas)<br>LC50: 13.5 - 18.3mg/L (96h, Poecilia reticulata)<br>LC50: 10.8 - 16.6mg/L (96h, Poecilia reticulata)<br>LC50: =1.31mg/L (96h, Cyprinus carpio) | | EC50: =1.8mg/L (48h, Daphnia magna) |
| Sodium Hydroxide 1310-73-2 | | LC50: =45.4mg/L (96h, Oncorhynchus mykiss) | | |

Persistence and degradability No information available.

Bioaccumulation

Component Information

| Chemical name | Partition coefficient |
|---|---|
| Sodium Dodecyl Sulfate 151-21-3 | 1.6 |

Mobility in soil No information available.

Other adverse effects No information available.

## 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

| | |
|---|---|
| UN/ID No | UN1824 |
| Proper shipping name | Sodium Hydroxide solution |
| Transport hazard class(es) | 8 |
| Packing group | II |

ICAO (air)

IATA

| | |
|---|---|
| UN number or ID number | UN1824 |
| Proper shipping name | Sodium Hydroxide solution |
| Transport hazard class(es) | 8 |
| Packing group | II |

IMDG

| | |
|---|---|
| UN number or ID number | UN1824 |
| Proper shipping name | Sodium Hydroxide solution |
| Transport hazard class(es) | 8 |
| Packing group | II |

## 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

| | |
|---|---|
| DSL/NDSL | Contact supplier for inventory compliance status. |
| EINECS/ELINCS | Contact supplier for inventory compliance status. |