



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS) and Canadian
Workplace Hazardous Material Information System (WHMIS 2015)

Revision date 29-Apr-2024

Revision Number 1

1. Identification

Product identifier

Product Code(s)

60-4130-XX

Product Name

5X Tris-Borate-EDTA (TBE) Buffer

Other means of identification

Synonyms

None

Recommended use of the chemical and restrictions on use

Recommended use

No information available

Restrictions on use

Not for human diagnostic use

Details of the supplier of the safety data sheet

Manufacturer Address

Glen Research LLC
22825 Davis Drive
Sterling, VA 20164 USA

Emergency telephone number

Company Phone Number

1-703-437-6191

Emergency Telephone

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Website

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2. Hazard(s) identification

Classification

Reproductive toxicity

Category 1B

Appearance Clear liquid

Physical state Liquid

Odor No information available

Label elements

Signal word

Danger

Hazard statements

May damage fertility or the unborn child



Precautionary Statements - Prevention

Obtain special instructions before use

Do not handle until all safety precautions have been read and understood

Wear protective gloves, protective clothing, eye protection and face protection

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention

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

Mixture

| Chemical name | CAS No. | Weight-% | Hazardous Material Information Review Act registry number (HMIRA registry #) | Date HMIRA filed and date exemption granted (if applicable) |
|------------------------------|------------|----------|--|---|
| Water | 7732-18-5 | 80-100 | - | - |
| Tris Base | 77-86-1 | 3-7 | - | - |
| Boric Acid | 10043-35-3 | 1-5 | - | - |
| EDTA disodium Salt Dihydrate | 6381-92-6 | 0.1-1 | - | - |

4. First-aid measures

Description of first aid measures

General advice

Show this safety data sheet to the doctor in attendance.

Inhalation

Not an expected route of exposure. IF exposed or concerned: Get medical advice/attention.

Eye contact

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

Skin contact

Wash skin with soap and water. Get medical attention if symptoms occur.

Ingestion Not an expected route of exposure. IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

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 No information available.

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 Ensure adequate ventilation. Use personal protective equipment as required.

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 Soak up with inert absorbent material. Take up mechanically, placing in appropriate containers for disposal.

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. Remove contaminated clothing and shoes.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store locked up.

8. Exposure controls/personal protection

Control parameters

Exposure Limits

| Chemical name | ACGIH TLV | OSHA PEL | NIOSH | |
|--------------------------|---|---|---|---|
| Boric Acid 10043-35-3 | STEL: 6 mg/m ³ inhalable particulate matter TWA: 2 mg/m ³ inhalable particulate matter | - | - | |
| Chemical name | Alberta | British Columbia | Ontario | Quebec |
| Boric Acid 10043-35-3 | - | TWA: 2 mg/m ³ STEL: 6 mg/m ³ | TWA: 2 mg/m ³ STEL: 6 mg/m ³ | TWA: 2 mg/m ³ STEL: 6 mg/m ³ |

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 (or goggles).

Hand protection Wear suitable gloves.

Skin and body protection Wear suitable protective 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 Do not eat, drink or smoke when using this product. 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 Clear liquid
Color Colorless
Odor No information available
Odor threshold No information available

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|---|-------------------|-------------------------|
| pH | 8.1 - 8.5 | 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 | No data available | None known |
| Flammability Limit in Air | No data available | None known |
| Upper flammability or explosive | No data available | |

| | | |
|---|--------------------------|------------|
| limits | | |
| Lower flammability or explosive limits | No data available | |
| Vapor pressure | No data available | None known |
| Relative vapor density | No data available | None known |
| Relative density | No data available | None known |
| Water solubility | No data available | None known |
| Solubility in other solvents | 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 |
| <u>Other information</u> | | |
| 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 | None known based on information supplied. |
| Incompatible materials | None known based on information supplied. |
| 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. |
| Eye contact | Specific test data for the substance or mixture is not available. |
| Skin contact | Specific test data for the substance or mixture is not available. |
| Ingestion | Specific test data for the substance or mixture is not available. |

Symptoms related to the physical, chemical and toxicological characteristics

| | |
|-----------------|---------------------------|
| Symptoms | No information available. |
|-----------------|---------------------------|

Acute toxicity

| | |
|---------------------------------------|--------------------------|
| Numerical measures of toxicity | No information available |
|---------------------------------------|--------------------------|

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

| | |
|-------------------------------|-----------------|
| ATEmix (oral) | 40,814.50 mg/kg |
| ATEmix (dermal) | 31,348.00 mg/kg |
| ATEmix (inhalation-gas) | 99,999.00 ppm |
| ATEmix (inhalation-dust/mist) | 40.00 mg/l |
| ATEmix (inhalation-vapor) | 99,999.00 mg/l |

Component Information

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|--------------------------|----------------------|-------------------------|-------------------------|
| Water 7732-18-5 | > 90 mL/kg (Rat) | - | - |
| Tris Base 77-86-1 | = 5900 mg/kg (Rat) | > 5000 mg/kg (Rat) | - |
| Boric Acid 10043-35-3 | = 2660 mg/kg (Rat) | > 2000 mg/kg (Rabbit) | > 2.12 mg/L (Rat) 4 h |

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

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

| Chemical name | ACGIH | IARC | NTP | OSHA |
|--------------------------|-------|----------|-----|------|
| Boric Acid 10043-35-3 | - | Group 2A | - | X |

Legend

Occupational Safety and Health Administration of the US Department of Labor

X - Present

Reproductive toxicity Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. May damage fertility or the unborn child.

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 |
|--------------------------|----------------------|------|----------------------------|--|
| Boric Acid 10043-35-3 | - | - | - | EC50: 115 - 153mg/L (48h, Daphnia magna) |

Persistence and degradability No information available.

Bioaccumulation

Component Information

| Chemical name | Partition coefficient |
|--------------------------|-----------------------|
| Boric Acid 10043-35-3 | -1.09 |

Mobility in soil No information available.

Other adverse effects No information available.

13. Disposal considerations

Disposal methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Dispose of in accordance with federal, state and local regulations. 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 This product is not classified as dangerous goods, per U.S. DOT regulations under 49 CFR 172.101

IATA This product is not classified as Dangerous Goods, by rules of IATA.

IMDG This product is not classified as Dangerous Goods by the International Maritime Organization.

15. Regulatory information

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

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 | Not determined. |
| DSL/NDSL | Not determined. |
| EINECS/ELINCS | Not determined. |
| ENCS | Not determined. |
| IECSC | Not determined. |
| KECI | Not determined. |
| PICCS | Not determined. |
| AIIC | Not determined. |

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
AIIC - Australian Inventory of Industrial 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 |
|--------------------------|------------|---------------|--------------|
| Boric Acid 10043-35-3 | X | - | - |

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

| | | | | |
|-------------|-------------------------|-----------------------|---------------------------|------------------------------|
| NFPA | Health hazards 1 | Flammability 0 | Instability 0 | Special hazards - |
| HMIS | Health hazards * | Flammability 0 | Physical hazards 0 | Personal protection 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 | Sk* | Skin designation |

Revision date 29-Apr-2024

Revision Note No information available

Disclaimer

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End of Safety Data Sheet