

# Safety Data Sheet

## Tris Borate EDTA Buffer, 20X

**CAROLINA**<sup>®</sup>  
www.carolina.com

### Section 1 Product Description

**Product Name:** Tris Borate EDTA Buffer, 20X  
**Recommended Use:** Science education applications  
**Synonyms:** Electrophoresis Buffer, TBE Buffer Concentrate  
**Distributor:** Carolina Biological Supply Company  
2700 York Road, Burlington, NC 27215  
1-800-227-1150  
**Chemical Information:** 800-227-1150 (8am-5pm (ET) M-F)  
**Chemtrec:** 800-424-9300 (Transportation Spill Response 24 hours)

### Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

**DANGER**



Causes skin irritation. Causes serious eye irritation. May damage fertility or the unborn child.

**GHS Classification:**

Reproductive Toxicity Category 1B, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2

**Other Safety Precautions:** IF exposed or concerned: Get medical advice/attention.

**Acute Toxicity Dermal Contains** 14.6 % of the mixture consists of ingredient(s) of unknown toxicity  
**Acute Toxicity Inhalation Vapor Contains** 14.6 % of the mixture consists of ingredient(s) of unknown toxicity  
**Acute Toxicity Inhalation Dust/Mist Contains** 14.6 % of the mixture consists of ingredient(s) of unknown toxicity

### Section 3 Composition / Information on Ingredients

| <u>Chemical Name</u>  | <u>CAS #</u> | <u>%</u> |
|---|--------------|----------|
| Water   | 7732-18-5    | 85.4     |
| Tris(Hydroxymethyl) Aminomethane  | 77-86-1      | 9.2      |
| Boric Acid  | 10043-35-3   | 4.7      |
| Ethylenediaminetetraacetic Acid, Disodium Salt, Dihydrate (EDTA Sodium) | 6381-92-6    | 0.6      |
| Sodium Hydroxide  | 1310-73-2    | 0.1      |

### Section 4 First Aid Measures

**Emergency and First Aid Procedures**

**Inhalation:** In case of accident by inhalation: remove casualty to fresh air and keep at rest.  
**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/attention.  
**Skin Contact:** After contact with skin, wash immediately with plenty of water.  
**Ingestion:** If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

### Section 5 Firefighting Procedures

**Extinguishing Media:** Use dry chemical, CO2 or appropriate foam.

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**Fire Fighting Methods and Protection:** Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.

**Fire and/or Explosion Hazards:** N/A

**Hazardous Combustion Products:** Carbon dioxide, Carbon monoxide, Nitrogen oxides

## Section 6 Spill or Leak Procedures

**Steps to Take in Case Material Is Released or Spilled:** Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this SDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill. Avoid creating and inhaling dust. Ventilate the contaminated area. Isolate area. Keep unnecessary personnel away. Avoid creating and inhaling spray or mist. Avoid contact with skin and eyes.

**Environmental Precautions:** Avoid breathing material. Avoid contact with skin and eyes. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container Do not allow the spilled product to enter public drainage system or open waterways.

## Section 7 Handling and Storage

**Handling:** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Use personal protective equipment as required. Avoid contact with skin and eyes.

**Storage:** Store locked up. Keep container tightly closed in a cool, well-ventilated place. Suitable for any general chemical storage.

**Storage Code:** Green - general chemical storage

## Section 8 Protection Information

| <u>Chemical Name</u>           | <u>ACGIH</u>   |   | <u>OSHA PEL</u>         |               |
|--------------------------------|--|---|-------------------------|---------------|
|                                | <u>(TWA)</u>   | <u>(STEL)</u>   | <u>(TWA)</u>            | <u>(STEL)</u> |
| Boric Acid                     | 2 mg/m <sup>3</sup> TWA<br>(inhalable fraction,<br>listed under Borate<br>compounds,<br>inorganic) | 6 mg/m <sup>3</sup> STEL<br>(inhalable fraction,<br>listed under Borate<br>compounds,<br>inorganic) | N/A                     | N/A           |
| EDTA, Disodium Salt, Dihydrate | N/A  | N/A   | N/A                     | N/A           |
| Sodium Hydroxide               | N/A  | N/A   | 2 mg/m <sup>3</sup> TWA | N/A           |

### Control Parameters

**Engineering Measures:** Local exhaust ventilation, process enclosures, or other engineering controls are necessary when handling or using this product to avoid overexposure. Local exhaust ventilation may be necessary to control any air contaminants to within the TLV during the use of this product

**Personal Protective Equipment (PPE):** Lab coat, apron, eye wash, safety shower.

**Respiratory Protection:** No respiratory protection required under normal conditions of use. Wear a NIOSH approved respirator if any exposure is possible.

**Eye Protection:** Wear chemical splash goggles when handling this product. Have an eye wash station available.

**Skin Protection:** Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

**Gloves:** Nitrile

## Section 9 Physical Data

**Formula:** This product is a mixture.

**Molecular Weight:** N/A

**Appearance:** Colorless Liquid

**Odor:** None

**Odor Threshold:** No data available

**pH:** Approx. 8.3

**Vapor Pressure:** N/A

**Evaporation Rate (BuAc=1):** N/A

**Vapor Density (Air=1):** N/A

**Specific Gravity:** approx. 1.17

**Solubility in Water:** Soluble

**Log Pow (calculated):** No data available

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**Melting Point:** No data available  
**Boiling Point:** 100 C  
**Flash Point:** No data available  
**Flammable Limits in Air:** N/A

**Autoignition Temperature:** No data available  
**Decomposition Temperature:** No data available  
**Viscosity:** No data available  
**Percent Volatile by Volume:** N/A

## Section 10

## Reactivity Data

**Reactivity:** No data available  
**Chemical Stability:** Stable under normal conditions.  
**Conditions to Avoid:** Exposure to moisture  
**Incompatible Materials:** Water-reactive materials, Acetic anhydride, Alkali Carbonates, Hydroxides, Alkali and Alkaline Metals  
**Hazardous Decomposition Products:** Nitrogen oxides, Carbon dioxide, Carbon monoxide  
**Hazardous Polymerization:** Will not occur

## Section 11

## Toxicity Data

**Routes of Entry:** Ingestion, Skin contact.  
**Symptoms (Acute):** N/A  
**Delayed Effects:** No data available

### Acute Toxicity:

| Chemical Name                  | CAS Number | Oral LD50                    | Dermal LD50 | Inhalation LC50 |
|--------------------------------|------------|------------------------------|-------------|-----------------|
| Water                          | 7732-18-5  | Oral LD50 Rat<br>90000 mg/kg |             |                 |
| Boric Acid                     | 10043-35-3 | Oral LD50 Rat<br>2660 mg/kg  |             |                 |
| EDTA, Disodium Salt, Dihydrate | 6381-92-6  | Oral LD50 Rat<br>2000 mg/kg  |             |                 |

### Carcinogenicity:

| Chemical Name                  | CAS Number | IARC       | NTP        | OSHA       |
|--------------------------------|------------|------------|------------|------------|
| Boric Acid                     | 10043-35-3 | Listed     | Not listed | Not listed |
| EDTA, Disodium Salt, Dihydrate | 6381-92-6  | Not listed | Not listed | Not listed |
| Sodium Hydroxide               | 1310-73-2  | Not listed | Not listed | Not listed |

### Chronic Effects:

**Mutagenicity:** No evidence of a mutagenic effect.  
**Teratogenicity:** Evidence of a teratogenic effect (birth defect).  
**Sensitization:** No evidence of a sensitization effect.  
**Reproductive:** Evidence of negative reproductive effects.  
**Target Organ Effects:**  
**Acute:** See Section 2  
**Chronic:** Not listed as a carcinogen by IARC, NTP or OSHA., Mutation data cited., Reproductive data cited.

## Section 12

## Ecological Data

**Overview:** This material is not expected to be harmful to the ecology.  
**Mobility:** No data  
**Persistence:** Dissolved into water, Photodegradation  
**Bioaccumulation:** No data  
**Degradability:** No data  
**Other Adverse Effects:** No data

| Chemical Name                  | CAS Number | Eco Toxicity                               |
|--------------------------------|------------|--|
| Water                          | 7732-18-5  | No data available                          |
| Boric Acid                     | 10043-35-3 | 48 HR EC50 DAPHNIA MAGNA 115 - 153 MG/L    |
| EDTA, Disodium Salt, Dihydrate | 6381-92-6  |  |
| Sodium Hydroxide               | 1310-73-2  | Aquatic LC50 (96h) Rainbow Trout 45.4 MG/L |

## Section 13

## Disposal Information

**Disposal Methods:** Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.

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Waste Disposal Code(s): Not Determined

## Section 14 Transport Information

Ground - DOT Proper Shipping Name:  
Not Regulated for Transport

Air - IATA Proper Shipping Name:  
Not regulated for air transport by IATA.

## Section 15 Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

| Chemical Name                  | CAS Number | § 313 Name | § 304 RQ   | CERCLA RQ               | § 302 TPQ | CAA 112(2) TQ |
|--------------------------------|------------|------------|------------|-------------------------|-----------|---------------|
| Boric Acid                     | 10043-35-3 | No         | No         | No                      | No        | No            |
| EDTA, Disodium Salt, Dihydrate | 6381-92-6  | No         | No         | No                      | No        | No            |
| Sodium Hydroxide               | 1310-73-2  | No         | 1000 lb RQ | 1000lb (454kg) final RQ | No        | No            |

## Section 16 Additional Information

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The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

### Glossary

|        |   |      |   |
|--------|---|------|---|
| ACGIH  | American Conference of Governmental Industrial Hygienists             | NTP  | National Toxicology Program                   |
| CAS    | Chemical Abstract Service Number                                      | OSHA | Occupational Safety and Health Administration |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act | PEL  | Permissible Exposure Limit                    |
| DOT    | U.S. Department of Transportation                                     | ppm  | Parts per million                             |
| IARC   | International Agency for Research on Cancer                           | RCRA | Resource Conservation and Recovery Act        |
| N/A    | Not Available   | SARA | Superfund Amendments and Reauthorization Act  |
|        |   | TLV  | Threshold Limit Value                         |
|        |   | TSCA | Toxic Substances Control Act                  |
|        |   | IDLH | Immediately dangerous to life and health      |