



SAFETY DATA SHEET

1. CHEMICAL IDENTIFICATION AND COMPANY INFORMATION

PRODUCT NAME: Tris Borate EDTA Buffer Solution (5x)
PRODUCT NUMBER: T773
COMPANY INFO: *PhytoTechnology Laboratories*[®]
PO Box 12205, Shawnee, KS 66282-2205
Phone: 1-888-749-8682 or 1-913-341-5343; Fax: 1-888-449-8682 or 1-913-341-5442
www.phytotechlab.com

EMERGENCY PHONE NUMBER: 1-800-535-5053 - US Only
1-352-323-3500 - International

RECOMMENDED USE: For Research Use Only

RESTRICTIONS ON USE: Products sold by *PhytoTechnology Laboratories*[®] are intended for research and laboratory use only. Products are not to be used as human or animal therapeutics, cosmetics, agricultural or pesticidal products, food additives, or as household chemicals.

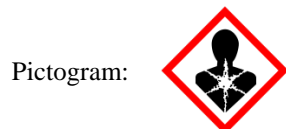
2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS Classification:

H361 – Reproductive toxicity (Category 2)

GHS Label elements, including hazard and precautionary statements:



Signal Word: **Warning**

Hazard Statements: H361 – Suspected of damaging fertility or the unborn child.

Precautionary Statements:

P202 – Do not handle until all safety precautions have been read and understood.
P280 – Wear protective gloves/protective clothing/eye protection/face protection.
P308 + P313 – IF exposed or concerned: Get medical advice/attention.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: TBE Buffer

| Ingredient | CAS Number | Percent | Hazardous |
|---|------------|---------|---|
| Tris-Base | 77-86-1 | 5.23 % | No exposure limits established by OSHA or ACGIH |
| Boric Acid | 10043-35-3 | 2.67 % | No exposure limits established by OSHA or ACGIH |
| Ethylenediaminetetraacetic Acid, Disodium Salt, Dihydrate | 6381-92-6 | 0.36 % | No exposure limits established by OSHA or ACGIH |
| Water | 7732-18-5 | >90 % | No exposure limits established by OSHA or ACGIH |

4. FIRST AID MEASURES

General Advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

| Route of Entry | Symptoms | First Aid Procedures |
|----------------|-----------------------------------|---|
| Ingestion | May cause irritation if swallowed | If swallowed, wash out mouth with water. Never give anything by mouth to an unconscious person. Get medical attention. |

| | | |
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| Inhalation | May cause irritation to respiratory tract | Safely remove victim to fresh air. If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, ensure clear airway and give oxygen. Get medical attention. |
| Eye Contact | Direct contact may cause irritation. May cause redness, tearing, or blurred vision. | Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation persists. |
| Skin Contact | Irritating. May cause reddening, itching or inflammation. | Wash area thoroughly with soap and water. Remove and wash contaminated clothing. Get medical attention if irritation persists. |

Most Important Symptoms or Effects, Both Acute and Delayed:

See section 2 and/or section 11

Recommendation for Immediate Medical Care and Special Treatment Needed:

No data available

5. FIRE FIGHTING MEASURES

| | |
|---|---|
| Suitable Extinguishing Media: | Water spray, carbon dioxide, dry chemical powder, or appropriate foam. Use extinguishing media suitable for surrounding fire. |
| Special Protective Equipment and Precaution for Firefighters: | In the event of a fire, wear full protective clothing and NIOSH approved self-contained breathing apparatus. Evacuate the area and fight fire from a safe distance. |
| Hazardous Combustion Products: | May emit toxic fumes under fire conditions. |
| Toxic Gases Produced: | Carbon monoxide, carbon dioxide, sodium oxides |

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Use personal protection recommended in Section 8. Avoid breathing vapors, mist or gas. Ensure adequate ventilation, especially in confined areas. Evacuate personnel to safe areas.

| | |
|------------------------------------|---|
| Environmental Precautions: | Prevent further leakage or spillage if safe to do so. Do not let product enter drains. |
| Method of Containment and Cleanup: | Clean-up personnel should wear proper protective equipment and clothing. Contain spilled material and do not let product enter drains. Soak up with inert absorbent material and place in a suitable, closed container for disposal in accordance with all local, state/provincial, and national requirements. Ventilate the area if necessary. |

7. HANDLING AND STORAGE

| | |
|----------------------------------|---|
| Precaution for Safe Handling: | Avoid contact with skin and eyes. Avoid aerosols. Avoid incompatible substances. Wash thoroughly after use. |
| Conditions for Safe Storage: | Keep in a tightly closed container and store in a cool, dry, and well-ventilated area. |
| Incompatibilities: | Potassium, Acid anhydrides |
| Recommended Storage Temperature: | Room Temperature |

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|--|---|
| OSHA's Permissible Exposure Limits (PELs): | No data available |
| ACGIH Threshold Limit Values (TLVs): | Boric acid: 2 mg/m ³ |
| Engineering Controls: | Handle in accordance to general industrial hygiene and safety practice. |
| Personal Protective Equipment (PPE): | |

| | |
|-------------------------|--|
| Eye/Face Protection: | Chemical safety glasses or goggles. Have eye-washing facilities readily available where eye contact can occur. |
| Skin Protection: | Protective gloves |
| Body Protection: | Lab coat |
| Respiratory Protection: | Respiratory protection is not required. |

9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|--|---|-------------------------------|
| Appearance: | Colorless to slight yellow tint, clear liquid | |
| pH (Neat): | 7.5 – 8.5 | |
| Solubility: | Miscible with Water | |
| Melting Point: | No data available | |
| Vapor Density: | No data available | |
| Vapor Pressure: | No data available | |
| Odor: | Odorless | |
| Odor Threshold: | No data available | |
| Viscosity: | No data available | |
| Relative Density: | No data available | |
| Evaporation Rate: | No data available | |
| Initial Boiling Point and Boiling Range: | No data available | |
| Flammability (solid, gas): | No data available | |
| Partition coefficient: n-octanol/water): | No data available | |
| Auto-ignition Temperature: | No data available | |
| Decomposition Temperature: | No data available | |
| Flash Point (Closed Cup): | No data available | |
| Flammable Limits: | Upper (%) – No data available | Lower (%) – No data available |

10. STABILITY AND REACTIVITY

| | | |
|-----------------------------------|--|--|
| Reactivity: | No data available | |
| Chemical Stability: | Stable under normal conditions of use | |
| Possibility of Hazard Reactions: | Will not occur | |
| Conditions to Avoid: | Incompatibles | |
| Incompatibles Materials: | Potassium, Acid anhydrides | |
| Hazardous Decomposition Products: | Carbon monoxide, carbon dioxide, sodium oxides | |

11. TOXICOLOGICAL INFORMATION

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|------------------|--|-------------------|
| Toxicity: | LD ₅₀ (Oral-Rat)(mg/Kg): | No data available |
| | LD ₅₀ (Oral-Mouse)(mg/Kg): | No data available |
| | LD ₅₀ (Dermal-Rabbit)(mg/Kg): | No data available |
| Carcinogenicity: | NTP: | No |
| | IARC: | No |
| | Z List: | No |
| | OSHA Reg: | No |

| | | |
|--|--|-------------------|
| Reproductive Toxicity: | No data available | |
| Symptoms Associated with Overexposure: | Toxicity reported for borates in humans: ingestion or absorption may cause nausea, vomiting, diarrhea, abdominal cramps, and erythematous lesions on the skin and mucous membranes. Other symptoms include: circulatory collapse, tachycardia, cyanosis, delirium, convulsions, and coma. Death has been reported to occur in infants from less than 5 grams and in adults from 5 to 20 grams. | |
| Specific Target Organ Toxicity: | Single Exposure: | No data available |
| | Repeated Exposure: | No data available |
| Target Organs: | None identified | |
| Medical Conditions Aggravated By Exposure: | None identified | |
| Routes of Entry: | Inhalation, Ingestion | |
| NIOSH/RTECS NO: | Not listed | |

The toxicological properties of this product have not been thoroughly investigated

12. ECOLOGICAL INFORMATION

| | |
|--------------------------------|-------------------|
| Ecotoxicity: | No data available |
| Persistence and Degradability: | No data available |
| Bioaccumulative Potential: | No data available |
| Mobility in Soil: | No data available |
| Other Adverse Effects: | No data available |

13. DISPOSAL CONSIDERATION

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|-----------------------------|--|
| Disposal Procedure: | Dispose in accordance with all applicable federal, state, and local environmental regulations. |
| EPA Hazardous Waste Number: | No data available |

14. TRANSPORT INFORMATION

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|--------------------|-----------------------|-----------------------------------|
| Domestic (D.O.T.): | Proper Shipping Name: | CHEMICALS, N.O.S. (NON-REGULATED) |
| | Hazard Class: | N/A |
| | UN/NA: | N/A |
| | Labels: | N/A |

International:

| | | |
|-------|-----------------------|-----------------------------------|
| IMDG: | Proper Shipping Name: | CHEMICALS, N.O.S. (NON-REGULATED) |
| | Hazard Class: | N/A |
| | UN/NA: | N/A |
| IATA: | Proper Shipping Name: | CHEMICALS, N.O.S. (NON-REGULATED) |
| | Hazard Class: | N/A |
| | UN/NA: | N/A |

15. REGULATORY INFORMATION

| | |
|--------------------------------|----|
| TSCA: | No |
| SARA TITLE III: | |
| Section 302 (EHS) Ingredients: | No |
| Section 313 Ingredients: | No |

Section 304 (EHS/CERCLA) Ingredients: No

Section 311/312 Hazard: No SARA Hazards

16. OTHER INFORMATION

| | | | | |
|--------------|----------------------|------------------------------|--------------------------|------------------------|
| HMIS Rating: | Health Hazard | Chronic Health Hazard | Flammability | Physical Hazard |
| | 1 | * | 0 | 0 |
| NFPA Rating: | Health Hazard | Fire Hazard | Reactivity Hazard | Special Hazard |
| | 0 | 0 | 0 | |

*Chronic Hazard: Chronic (long-term) health effects may result from repeated overexposure.

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