

**Latest revision date:** February 27, 2024

**Revision:** 1.1

**SDS prepared by:** Amplyus

### SECTION 1 — IDENTIFICATION

**Product name:** Tris-Borate-EDTA Buffer

**Catalog or product number:** Various

**Product use:** This product is for education and research use only

**Supplier:**

Amplyus LLC

1770 Massachusetts Avenue, Suite 167

Cambridge, MA 02140

Phone: 1-781-990-8727

Fax: 888-317-0512

**Emergency Telephone Number:** 1-781-990-8727 during US East Coast business hours

### SECTION 2 — HAZARDS IDENTIFICATION

**GHS classification:**

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H335: May cause respiratory irritation.



**Hazard statement(s):**

H360: May damage fertility or the unborn child.

**Precautionary statement(s):**

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

P261: Avoid breathing dust.

P264: Wash hands thoroughly after handling.

P271: Use only outdoors or in a well-ventilated area.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352: IF ON SKIN: Wash with plenty of water and soap.

P332+P313: If skin irritation occurs: Get medical attention.

P362+P364: Take off contaminated clothing and wash it before reuse.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312: Call a POISON CENTER or doctor if you feel unwell.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313: If eye irritation persists: Get medical attention.

P403+P233: Store in a well-ventilated place. Keep container tightly closed.

P405: Store locked up.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

**Hazards not otherwise classified:** Not known.

### SECTION 3 — COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	%	CAS Number
Tris tromethamine	63.6%	77-86-1
Boric acid	32.1%	10043-35-3
Ethylenediaminetetraacetic acid	4.3%	60-00-4

## SECTION 4 — FIRST AID MEASURES

**General information:** If seeking medical attention, provide SDS to physician.

**Eye contact:** CAUSES SERIOUS EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

**Skin contact:** CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

**Inhalation:** MAY CAUSE RESPIRATORY IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion:** MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

## SECTION 5 — FIRE-FIGHTING MEASURES

**Conditions of flammability:** Not flammable

**Suitable extinguishing media:** Use extinguishing agent suitable for type of surrounding fire.

**Special protective equipment for firefighters:** In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

**Hazardous combustion products:** During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

## SECTION 6 — ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Prevent skin/eye contact. Wear personal protective equipment as needed.

**Environmental precautions:** Avoid runoff into storm sewers and ditches which lead to waterways.

**Methods and materials for containment and cleaning up:** Recover for reuse if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

## SECTION 7 — HANDLING AND STORAGE

**Precautions for safe handling:** Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

**Conditions for safe storage:** Store in a cool, dry, well-ventilated area away from incompatible substances.

**Incompatible products:** N/A

## SECTION 8 — EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Borate compounds, inorganic	TWA: 2 mg/m <sup>3</sup> STEL: 6 mg/m <sup>3</sup> (A4)	None established	None established

**Engineering controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

**Respiratory protection:** None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA approved respirator.

**Personal protective measures:** Lab coat, apron, eye wash, safety shower

**Personal protective equipment:**

- **Skin protection:** protective gloves, appropriate protective clothing
- **Eye protection:** safety glasses

## SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

**Form:** Solid, white, crystalline powder

**Color:** White

**Odor:** None

**Odor threshold:** N/A

**pH:** No data available

**Melting point/freezing point:** N/A

**Boiling point:** N/A

**Flash point:** No data available

**Evaporation rate:** No data available

**Ignition temperature:** No data available

**Autoignition temperature:** No data available

**Lower explosion limit:** No data available

**Upper explosion limit:** No data available

**Vapor pressure:** No data available

**Vapor density:** No data available

**Relative density (water = 1):** No data available

**Water solubility:** Soluble in water

**Partition coefficient (n-octanol/water):** No data available

**Viscosity:** No data available

## SECTION 10 — STABILITY AND REACTIVITY

**Chemical stability:** Stable

**Hazardous polymerization:** Will not occur

**Conditions to avoid:** Excessive temperatures, heat, sparks, open flame and other sources of ignition.

**Incompatible materials to avoid:** Strong oxidizers, bases, acids, aldehydes, aluminum, acetic anhydride, potassium, iron, brass, copper and strong alkali.

**Hazardous decomposition products:** Carbon oxides, nitrogen oxides, ammonia and water vapor.

## SECTION 11 — TOXICOLOGICAL INFORMATION

**Acute toxicity LD/LC50 values:** Tris tromethamine: Oral-rat LD50: 5900 mg/kg / Boric acid: Oral-rat LD50: 2,500 mg/kg

**Respiratory or skin sensitization:** No data available

**Germ cell mutagenicity:** No data available

**Reproductive toxicity:** No data available

**Teratogenicity:** No data available

**Carcinogenicity:**

TP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

**Potential health effects:**

Inhalation: May cause respiratory irritation.

Ingestion: May be harmful if swallowed.

Skin: Causes skin irritation.

Eyes: Causes serious eye irritation.

**Signs and symptoms of exposure:** Animal feeding studies in rat, mouse and dog, at high doses, have demonstrated effects on fertility and testes. Studies with the chemically related boric acid in the rat, mouse and rabbit, at high doses, demonstrate developmental effects on the fetus, including fetal weight loss and minor skeletal variations. The doses administered were many times in excess of those to which humans would normally be exposed. Human epidemiological studies show no increase in pulmonary disease in occupational populations with chronic exposures to boric acid dust and sodium borate dust. A recent epidemiological study under the conditions of normal occupational exposure to borate dusts indicated no effect on fertility. Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: Tris tromethamine: TY2900000 / Boric acid: ED4550000

## SECTION 12 — ECOLOGICAL INFORMATION

**Toxicity to fish:** *Carassius auratus* (goldfish) LC50: 0.63 g/L/3 day [Boric acid]

**Toxicity to daphnia and other aquatic invertebrates:** *Daphnia magna* (Water flea) LC50: 1085-1402 mg/L/48 hours [Boric acid]

**Toxicity to algae:** *Scenedesmus subspicatus* (algae) EC50: 158 mg/L/96 hours [Boric acid]

**Persistence and degradability:** No data available

**Bioaccumulative potential:** No data available

**Mobility in soil:** No data available

**PBT and vPvB assessment:** No data available

**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

## SECTION 13 — DISPOSAL CONSIDERATIONS

Dispose of waste in accordance with applicable national, regional, or local regulations. These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

## SECTION 14 — TRANSPORT INFORMATION

This substance is considered to be non-hazardous for transport.

## SECTION 15 — REGULATORY INFORMATION

**SARA 302/304 (40CFR355.30/40CFR355.40):** This material does not contain any components with a section 302 EHS TPQ or a section 304 EHS RQ.

**SARA 313:** Substance not listed

**SARA 311/312:** No SARA hazards

**California Proposition 65:** Substance not listed

**Massachusetts right to know:** Substance not listed

**TSCA:** Listed

## SECTION 16 — OTHER INFORMATION

This information is based on our present knowledge and shall be used only as a guide. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. Amplyus LLC is not held liable for any damage resulting from handling or from contact with the above mentioned products