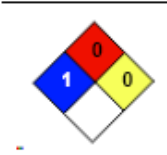







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San Diego, CA 92126
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MATERIAL SAFETY DATA SHEET

TBE Buffer, 10X Concentrate

NPFA	HMIS	Personal Protective Equipment										
	<table><tr><td>HEALTH</td><td>1</td></tr><tr><td>FLAMMABILITY</td><td>0</td></tr><tr><td>REACTIVITY</td><td>0</td></tr><tr><td>PPE</td><td>C</td></tr></table>	HEALTH	1	FLAMMABILITY	0	REACTIVITY	0	PPE	C			
HEALTH	1											
FLAMMABILITY	0											
REACTIVITY	0											
PPE	C											

In Case of Emergency: Call ChemTrac (24 hr): 800-424-9300, 703-527-3887 Call (330)425-2522

1. Product Identification

NAME: Tris-Borate-EDTA Buffer
CAS#: None
Catalog #: 20-131

2. Composition/Information on Ingredients

Item	CAS Number	Percent	Hazard?
Distilled Water, Less than	7732-18-5	12	Yes
Tris Base, Less than	77-86-1	8	No
EDTA Disodium Dihydrate, Less than	6381-92-6	8	No
Boric Acid, Less than	10043-35-3	8	No

3. Hazards Identification

Emergency Overview

WARNING! HARMFUL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.

Safety Ratings (Provided here for your convenience)

Health Rating: 1 - Slight

Flammability Rating: 0 - None

Reactivity Rating: 0 - None

Contact Rating: 0 - None

Lab Protective Equip: GOGGLES; LAB COAT

Storage Color Code: Orange (General Storage)

Potential Health Effects

For Tris:

SKIN AND EYES: Contact with skin and eyes may cause irritation, redness, swelling and pain especially of the mucous membranes.

INHALATION: Excessive inhalation of dust may cause irritation, cough and shortness of breath.

INGESTION: Ingestion or excessive exposure may lead to nausea, vomiting and diarrhea. Large amounts may cause weakness, collapse or coma.

For Boric Acid:

EYES: Contact may cause irritation. Prolonged exposure may cause conjunctivitis and edema.

SKIN: Contact may cause mild irritation. May be absorbed through the skin to cause systemic effects including nausea, vomiting, diarrhea, abdominal cramps, erythematous lesions on skin and mucous membranes, circulatory collapse, tachycardia, cyanosis, delirium, convulsions and coma.

INHALATION: Inhalation causes irritation of mucous membranes and possible systemic effects listed under skin.

INGESTION: May cause effects listed under skin as well as anorexia, reddening of the tongue, loss of hair, palpebral edema, gastrointestinal disturbances, kidney and liver damage.

4. First Aid Measures

Inhalation:

Remove the victim from exposure and move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Keep victim quiet and warm. Seek immediate medical attention.

Ingestion:

Drink water and seek immediate medical attention. Avoid alcoholic beverages. Never give anything by mouth to an unconscious person.

Skin Contact:

Flush with water, then wash thoroughly with soap and water. Remove contaminated clothing and wash before reuse. Seek medical attention if irritation persists.

Eye Contact:

Flush with water for 15 minutes. Seek medical advice if irritation persists.

5. Fire Fighting Measures

Use media suitable to extinguish the supporting or surrounding fire. Wear NIOSH (or equivalent) approved self contained breathing apparatus. For small fires only: use carbon dioxide, dry powder or foam. During a fire irritating and highly toxic gases may be generated by thermal decomposition or combustion.

6. Accidental Release Measures

Wear appropriate personal protective equipment and clothing including lab coat, safety glasses, gloves and NIOSH-approved respirator. Collect in a manner that does not create dust and place in a suitable waste container. Avoid contact of material with skin or eyes. Use adequate ventilation.

7. Handling and Storage

Wear appropriate personal protective equipment and clothing including lab coat, safety glasses, gloves and NIOSH-approved respirator. Avoid contact of material with skin or eyes. Do not store in contact with aluminum or copper. Store in a cool, dry, well-ventilated area away from incompatible substances.

8. Exposure Controls/Personal Protection

Wear appropriate personal protective equipment and clothing including lab coat, safety glasses, gloves and NIOSH-approved respirator. A qualified industrial hygienist should evaluate the need for respiratory protection. Use respiratory protection approved by NIOSH (or equivalent) and appropriate to the hazard. Avoid contact of material with skin or eyes. Mechanical ventilation or local exhaust as needed to control exposure to dust, vapors or mists. Access to a safety shower and eye-wash.

9. Physical and Chemical Properties

Appearance: Liquid Buffer

Boiling Point: No data available

Vapor Pressure: No data available

Vapor Density: No data available

Solubility (Water): Soluble

Specific Gravity: No data available

Percent Volatile: No data available

Evaporation Rate: No data available

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Polymerization:

Will not occur.

11. Toxicological Information

For Tris:

Mutation data listed in RTECS under AH4410000.

For Boric Acid:

Irritation, reproductive, mutation and toxicity data listed in RTECS under ED4550000.

Oral Rat LD50 = 2660 mg/kg (1945) Toxic effects may include Nausea, vomiting, diarrhea, hypermotility, convulsions, dermatitis, anorexia, tremors, ataxia, cyanosis and possibly death.

12. Ecological Information

Environmental Fate:
No information found.
Environmental Toxicity:
No information found.

13. Disposal Considerations

OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

14. Transport Information

Not Regulated

15. Regulatory Information

RCRA - No applicable information.
SARA 302 - No applicable information.
SARA 313 - This material is not reportable under 313.
EPA TSCA Section 8(b) - For Tris and Boric Acid: Chemical Inventory.
Exposure Limits - Not established..

16. Other Information

NFPA Ratings: Health: 1 Flammability: 0 Reactivity: 0
Label Hazard Warning:
WARNING! HARMFUL IF INHALED OR SWALLOWED. MAY CAUSE IRRITATION TO EYES AND RESPIRATORY TRACT.
Label Precautions:
Avoid contact with eyes, skin and clothing.
Wash thoroughly after handling.
Keep container closed.
Use only with adequate ventilation.
Label First Aid:
If inhaled, remove to fresh air. Get medical attention for any breathing difficulty. In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists.

Status: Accepted

Reviewed By: Brady Chung

Review Date: 7/23/2009

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