

## SECTION 1 – IDENTIFICATION

**Product Name:** 1X Tris-Borate-EDTA (TBE) Buffer, pH 8.3  
Ultra Pure Grade

**Catalogue Number:** 3010

**Other means of identification:** Not available

**Recommended use of the chemical and restrictions on use:**

Suitable for electrophoresis of nucleic acids in agarose and polyacrylamide gels. Used both as a running buffer and as a gel preparation buffer.

For R&D use only. Not for pharmaceutical, household or other uses.

**Supplier Information:**

Axil Scientific Pte Ltd  
41 Science Park Road  
#04-08 The Gemini  
Singapore Science Park II  
Singapore 117610  
Tel: +65 6775 7318  
Fax: +65 6775 7211  
Email: [info@axilscientific.com](mailto:info@axilscientific.com)

Apical Scientific Sdn Bhd  
No 7-1 to 7-4 Jalan SP 2/7  
Taman Serdang Perdana, Seksyen 2  
Seri Kembangan 43300  
Selangor Darul Ehsan, Malaysia  
Tel: +603 8943 3252  
Fax: +603 8943 3243  
Email: [custcare@apicalscientific.com](mailto:custcare@apicalscientific.com)

**Emergency phone number:**

Monday – Friday, 8:00 a.m. to 6:00 p.m.  
+65 6775 7318 (Singapore)  
+603 8943 3252 (Malaysia)

## SECTION 2 – HAZARDS IDENTIFICATION

**GHS Classification:**

Reproductive toxicity: Category 1B

**GHS Hazard Pictogram(s):**



**Signal Word:** Danger

**Hazards statements:**

H360: May damage fertility or the unborn child.

## Precautionary statements:

### Prevention

P201: Obtain special instructions before use.

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

P281: Use personal protective equipment as required.

### Response

P308+P313: IF exposed or concerned: Get medical advice/ attention.

### Storage

P405: Store locked up.

### Disposal

P501: Dispose of contents/container in accordance with federal, state and local environmental regulations.

## SECTION 3 – COMPOSITION/ INFORMATION ON INGREDIENTS

**Chemical characterization:** Mixture

**Chemical Identity:**

**Synonyms:**

Tris Base  
THAM  
Tris(hydroxymethyl)aminomethane  
Trisamine  
Trimethylol aminomethane  
Trisaminol  
TRIS  
2-Amino-2-(hydroxymethyl)-1,3-propanediol  
1,1,1-Tris(hydroxy methyl) Methylamine  
Tromethamol  
(HOCH<sub>2</sub>)<sub>3</sub>CNH<sub>2</sub>

**Molecular Formula:**

**Molecular Weight:**

121.14 g/mol

**Chemical Identity:**

**Synonyms:**

Boric Acid  
Boracic Acid  
Hydrogen Borate  
Orthoboric Acid  
Boracic acid  
Hydrogen orthoborate  
Trihydroxyborane

**Molecular Formula:**

**Molecular Weight:**

H<sub>3</sub>BO<sub>3</sub>  
61.83

**Chemical Identity:**

**Synonyms:**

EDTA Disodium  
EDTA, Disodium Salt Dihydrate  
Ethylenediaminetetraacetic acid disodium salt dihydrate  
Ethanediylbis(N-(carboxymethyl)glycine) disodium salt  
Disodium dihydrogen ethylenediaminetetraacetate  
Versene disodium salt

**Molecular Formula:**

**Molecular Weight:**

C<sub>10</sub>H<sub>14</sub>N<sub>2</sub>Na<sub>2</sub>O<sub>8</sub>·2H<sub>2</sub>O  
372.25 g/mol

Component	Classification	Concentration
<b>Tris Base</b>		
CAS-No: 77-86-1 EC-No: 201-064-4		< 1.5 %
<b>Boric Acid</b>		
CAS-No: 10043-35-3 EC-No: 233-139-2	Repr. 1B; H360	< 0.6 %
<b>EDTA Disodium</b>		
CAS-No: 6381-92-6 EC-No: 205-358-3		< 0.1 %

## SECTION 4 – FIRST-AID MEASURES

### General Advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

### Eye Contact

Flush eyes with water as a precaution.

### Skin Contact

Immediately wash skin thoroughly with soap and copious amounts of water. Consult a physician.

### Inhalation

Remove to fresh air. If not breathing, give artificial respiration or if breathing is difficult, give oxygen. Consult a physician.

### Ingestion

Never give anything by mouth to an unconscious person. Rinse mouth with water.

### Most important symptoms and effects, both acute and delayed

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.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

### Indication of immediate medical attention and special treatment needed

Data not available.

## SECTION 5 – FIRE-FIGHTING MEASURES

### Extinguishing Media

Use water spray, dry chemical powder, carbon dioxide or alcohol-resistant foam.

### Special Exposure Hazards

Carbon oxides, nitrogen oxides (NO<sub>x</sub>), Borane/boron oxides

## Special Fire-fighting Procedures

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

## SECTION 6 – ACCIDENTAL RELEASE MEASURES

### Personal Precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

### Environmental Precautions

Do not allow material into sewers and drainage systems.

### Methods for Cleaning Up

Clean up spills immediately, observing precautions in the safety data sheet and label. Minimize dust generation. Dispose into a chemical waste container.

## SECTION 7 – HANDLING AND STORAGE

### Precautions for safe handling

Use with adequate ventilation as necessary or desired. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Follow all SDS/ label precautions. Avoid contact with skin and eyes. Avoid raising dust.

### Conditions for safe storage, including any incompatibilities

Store in tightly closed container in a cool, dry and well-ventilated area.

## SECTION 8 – EXPOSURE CONTROLS/ PERSONAL PROTECTION

### Occupational Exposure Limits

We are not aware of any national exposure limit.

### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice.

### Eye/ Face Protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### Skin/ Hand Protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Splash contact

Material: Nitrile rubber  
Minimum layer thickness: 0.11 mm  
Break through time: 480 min

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### Body protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory Protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Do not let product enter drains.

## SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

a)	<b>Appearance</b>	Clear solution
b)	<b>Odour</b>	Odourless
c)	<b>Odour Threshold</b>	Not available
d)	<b>pH</b>	8.1 – 8.5 (Neat, 25 °C)
e)	<b>Melting/freezing point</b>	Not available
f)	<b>Initial boiling point and boiling range</b>	Not available
g)	<b>Flash point</b>	Not available
h)	<b>Evaporation rate</b>	Not available
i)	<b>Flammability (solid, gas)</b>	Not available
j)	<b>Upper/lower flammability or explosive limits</b>	Not available
k)	<b>Vapour pressure (mm Hg)</b>	Not available
l)	<b>Vapour density</b>	Not available
m)	<b>Relative density</b>	Not available

---

n)	<b>Water solubility</b>	Not available
o)	<b>Partition coefficient: n-octanol/water</b>	Not available
p)	<b>Autoignition temperature</b>	Not available
q)	<b>Decomposition temperature</b>	Not available
r)	<b>Viscosity</b>	Not available

## SECTION 10 – STABILITY AND REACTIVITY

### Reactivity

Data not available.

### Chemical stability

Data not available.

### Possibility of hazardous reactions

Data not available.

### Conditions to avoid

Data not available.

### Incompatible material

Strong oxidizing agents, Potassium, Acid anhydrides.

### Hazardous decomposition products

Data not available.

## SECTION 11 – TOXICOLOGICAL INFORMATION

### Acute toxicity

Data not available.

### Skin corrosion/irritation

Data not available.

### Serious eye damage/eye irritation

Data not available.

### Respiratory or skin sensitization

Data not available.

### Germ cell mutagenicity

Data not available.

### Carcinogenicity

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.

**Reproductive toxicity**

Fetotoxicity. Presumed human reproductive toxicant.

**Specific target organ toxicity – single exposure**

Data not available.

**Specific target organ toxicity – repeated exposure**

Data not available.

**Aspiration hazard**

Data not available.

**Other information**

RTECS: Data not available

**SECTION 12 – ECOLOGICAL INFORMATION****Toxicity**

Data not available.

**Persistence and degradability**

Data not available.

**Bioaccumulative potential**

Data not available.

**Mobility in soil**

Data not available.

**Other adverse effect**

Data not available.

**SECTION 13 – DISPOSAL CONSIDERATIONS****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Dispose off as unused product.

**SECTION 14 – TRANSPORT INFORMATION****UN Number**

ADR/RID: -

IMDG: -

IATA-DGR: -

**UN Proper Shipping Name:**

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA-DGR: Not dangerous goods

**Transport Hazard Class(es)**

ADR/RID: -

IMDG: -

IATA-DGR: -

---

**Packing Group**

ADR/RID: -

IMDG: -

IATA-DGR: -

**Environmental Hazards**

ADR/RID: no

IMDG: marine pollutant: no

IATA-DGR: no

**Special Precaution for Users**

Data not available

**SECTION 15 – REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture**

Data not available

**SECTION 16 – OTHER INFORMATION****Date of Issue:** JULY 11, 2008**Date of Revision:** MAY 07, 2017

*The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. Axil Scientific Pte Ltd shall not be held liable for any damage resulting from handling or from contact with the above product.*