

## SECTION 1 – IDENTIFICATION

**Product Identifier:** 1X Tris Buffered Saline (TBS) Buffer  
Ultra Pure Grade

**Catalogue Number:** 3030

**Other means of identification:** Not available

**Recommended use of the chemical and restrictions on use:**  
For R&D use only. Not for pharmaceutical, household or other uses.

### Supplier Information:

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43300 Seri Kembangan, Selangor, Malaysia  
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### Emergency phone number:

Monday – Friday, 8:00 a.m. to 6:00 p.m.  
+65 6775 7318 (Singapore)  
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## SECTION 2 – HAZARDS IDENTIFICATION

### GHS Classification

Not a dangerous substance or mixture according to the Globally Harmonised System (GHS).

**Other Hazards** - None

## SECTION 3 – COMPOSITION/ INFORMATION ON INGREDIENTS

**Chemical characterization:** Mixture

**Chemical Identity:** Tris Base  
**Synonyms:** THAM  
Tris(hydroxymethyl)aminomethane  
Trisamine  
Trimethylol aminomethane  
Trisaminol  
TRIS  
2-Amino-2-(hydroxymethyl)-1,3-propanediol  
1,1,1-Tris(hydroxy methyl) Methylamine  
Tromethamol  
**Molecular Formula:**  $(\text{HOCH}_2)_3\text{CNH}_2$   
**Molecular Weight:** 121.14 g/mol

**Chemical Identity:** Hydrochloric Acid  
**Molecular Formula:** HCl  
**Molecular Weight:** 36.46 g/mol

**Chemical Identity:** Potassium Chloride  
**Molecular Formula:** KCl  
**Molecular Weight:** 74.55 g/mol

**Chemical Identity:** Sodium Chloride  
**Synonyms:** Common salt  
Halite  
Table salt  
**Molecular Formula:** NaCl  
**Molecular Weight:** 58.44 g/mol

| Component                             | Classification   | Concentration |
|---------------------------------------|--|---------------|
| <b>Tris Base</b>                      |  |               |
| CAS-No: 77-86-1<br>EC-No: 201-064-4   |  | < 0.3 %       |
| <b>Hydrochloric Acid</b>              |  |               |
| CAS-No: 7647-01-0<br>EC-No: 231-595-7 | Met. Corr. 1; 1; STOT SE 3;<br>H290, H314, H318, H335<br>Concentration limits:<br>≥ 25 %: Skin Corr. 1B,<br>H314; 10 - < 25 %: Skin Irrit.<br>2, H315; 10 - < 25 %: Eye Irrit.<br>2, H319; ≥ 10 %: 6.9 3,<br>H335; ≥ 0,1 %: Met. Corr. 1,<br>H290; | < 0.08 %      |
| <b>Potassium Chloride</b>             |  |               |
| CAS-No: 7447-40-7<br>EC-No: 231-211-8 |  | < 0.03 %      |
| <b>Sodium Chloride</b>                |  |               |
| CAS-No: 7647-14-5<br>EC-No: 231-598-3 |  | < 0.9 %       |

#### SECTION 4 – FIRST-AID MEASURES

##### Eye Contact

Flush eyes with water as a precaution.

##### Skin Contact

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

##### Inhalation

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

##### Ingestion

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

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

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 monoxide, carbon dioxide, nitrogen 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. Prevent skin/eye contact.

**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. 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.

**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**

| Component         | CAS-No.   | Value            | Control parameters             | Basis  |
|-------------------|-----------|------------------|--------------------------------|--|
| Hydrochloric acid | 7647-01-0 | PEL (short-term) | 5 ppm<br>7.5 mg/m <sup>3</sup> | Singapore.<br>Workplace Safety and Health Act –<br>First Schedule<br>Permissible<br>Exposure Limits of<br>Toxic Substances |

**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>             | Colourless solution     |
| b) | <b>Odour</b>                  | Odourless               |
| c) | <b>Odour Threshold</b>        | Not available           |
| d) | <b>pH</b>                     | 7.2 – 7.6 (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

Stable.

### Possibility of hazardous reactions

Data not available.

### Conditions to avoid

Data not available.

### Incompatible material

Data not available.

### Hazardous decomposition products

Carbon monoxide, carbon dioxide, nitrogen oxides

## 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**

Data not available.

**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:** FEBRUARY 23, 2022

*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.*