SECTION 1 – IDENTIFICATION

Product Identifier: Tris
Biotechnology Grade

Catalogue Number: 1401

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:

Axil Scientific Pte Ltd
2 Tukang Innovation Grove
#06-01, JTC MedTech Hub
Singapore 618305
Tel: +65 6775 7318
Email: custcare@axilscientific.com

Apical Scientific Sdn Bhd
No. 17, Jalan BS7/1C
Taman Perindustrian Bukit Serdang
43300 Seri Kembangan, Selangor, Malaysia
Tel: +603 8943 3252
Email: 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
Not a dangerous substance or mixture according to the Globally Harmonised System (GHS).

Other Hazards – None

SECTION 3 – COMPOSITION/ INFORMATION ON INGREDIENTS

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: $(HOCH_2)_3CNH_2$
Molecular Weight: 121.14 g/mol

Component	Classification	Concentration

Tris(hydroxymethyl)aminomethane		
CAS-No: 77-86-1 EC-No.: 201-064-4		≤ 99.9 %

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 oxides, nitrogen oxides

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

Further Information
Data not available.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions
Prevent skin/eye contact. Avoid dust formation. Avoid breathing vapours, mist or gas.

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)	**Appearance**	Colourless crystals
b)	**Odour**	Odourless
c)	**Odour Threshold**	Not available
d)	**pH**	10.0 – 10.6 (50mM in H_2O, 20 °C)
e)	**Melting/freezing point**	167°C – 172 °C
f)	**Initial boiling point and boiling range**	219 – 220 °C
g)	**Flash point**	169.7 °C
h)	**Evaporation rate**	Not available
i)	**Flammability (solid, gas)**	Not available
j)	**Upper/lower flammability or explosive limits**	Not available
k)	**Vapour pressure (mm Hg)**	Not available
l)	**Vapour density**	Not available
m)	**Relative density**	Not available
n)	**Water solubility**	485 mg/mL
o)	**Partition coefficient: n-octanol/water**	Not available
p)	**Autoignition temperature**	Not available
q)	**Decomposition temperature**	Not available
r)	**Viscosity**	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
Hygroscopic.

Incompatible material
Strong oxidizing agents.

Hazardous decomposition products
Data not available.

SECTION 11 – TOXICOLOGICAL INFORMATION

Acute toxicity
Oral (LD50): 3,000 mg/kg [Rat]
Dermal (LD50): > 5,000 mg/kg [Rat]

Skin corrosion/irritation
No skin irritation: OECD Test Guideline 404 [Rabbit]

Serious eye damage/eye irritation
No eye irritation: OECD Test Guideline 405 [Rabbit]

Respiratory or skin sensitization
Does not cause skin sensitization: OECD Test Guideline 406 - Buehler Test [Guinea pig]

Germ cell mutagenicity
Genotoxicity in vitro - Not mutagenic in Ames Test.
Genotoxicity in vitro - in vitro assay – negative
In vitro tests did not show mutagenic effects

Genotoxicity in vivo - In vivo tests did not show any chromosomal changes.

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: TY2900000

SECTION 12 – ECOLOGICAL INFORMATION

Toxicity
EC50: > 980 mg/l; 48 hr [Daphnia]
EC50: 397 mg/l; 72 hr [Algae]
NOEC: 100 mg/l; 72 hr [Algae]

Persistence and degradability
Biodegradability – Readily biodegradable: OECD Test Guideline 301F

Bioaccumulative potential
No bioaccumulation is to be expected (log Pow < 4).

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.