

SECTION 1 – IDENTIFICATION

Product Name: Tris
Ultra Pure Grade

Catalogue Number: 1400

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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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: (HOCH₂)₃CNH₂
Molecular Weight: 121.14 g/mol

Component	Classification	Concentration
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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 – 10.8 (50mM in H ₂ O, 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 ($\log Pow \leq 4$).

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.