

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier**Trade name:**

Bis [2-Hydroxyethyl] imino Tris-(Hydroxymethyl)-methane

Synonyms:2-[Bis(2-hydroxyethyl)amino]-2-(hydroxymethyl)-1,3-propanediol
BIS-TRIS**INCI:**

BIS-HYDROXYETHYL TROMETHAMINE

CAS Number:

6976-37-0

EC number:

230-237-7

1.2 Relevant identified uses of the substance or mixture and uses advised against Industrial and professional uses only.Use in formulation
Use as intermediate (industrial)
Use as buffer in industrial sites
Reagent for development and research**1.3 Details of the supplier of the safety data sheet****Manufacturer/Supplier:**TAIWAN HOPAX CHEMS. MFG. CO.,LTD
No. 28 Huadong Rd., Daliao Dist., Kaohsiung City 831134
TAIWAN-ROC**1.4 Emergency telephone number:**

+886-7-7887600 / +886-7-7872892

SECTION 2. Hazards Identification

2.1 Classification of the substance or mixture

Serious eye damage/eye irritation (Category 2A), H319

2.2 Label elements**Hazard pictograms**

GHS07

Signal word

Warning

Hazard Statements

H319 Causes serious eye irritation.

Precautionary Statements**Prevention**

P264 Wash skin thoroughly after handling.

P280 Wear eye protection/ face protection.

Response

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

Disposal

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

SECTION 3. Composition / Information on ingredients

3.1 Pure material :

Chinese and English name :

雙[2-羥乙基]亞氨基三-(羥甲基)-甲烷/ Bis [2-Hydroxyethyl] imino Tris-(Hydroxymethyl)-methane

Synonyms :

2-[Bis(2-hydroxyethyl)amino]-2-(hydroxymethyl)-1,3-propanediol

BIS-TRIS

The hazardous ingredient (%of the content) : ≥ 99.0%

3.2 Mixtures :

Chemical properties : -

Chinese and English names of The hazardous ingredients	Concentration or concentration ranges (ingredient percentage)
-	-

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5. FIRE FIGHTING MEASURES**5.1 Extinguishing media****Suitable extinguishing agents:**

Water Foam Carbon dioxide (CO₂) Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

Nitrogen oxides (NO_x)

Combustible.

Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

5.4 Advice for firefighters

Suppress (knock down) gases/vapors/mists with a water spray jet.

Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. ACCIDENTAL RELEASE MEASURES**6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact.

Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.6.2 Environmental precautions:

Do not let product enter drains.

6.3 Methods and material for containment and cleaning up:

Absorb spilled product with suitable non-combustible materials.

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10).

Take up dry. Dispose of properly.

Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

See Section 13 for disposal information.

SECTION 7. HANDLING AND STORAGE**7.1 Precautions for safe handling**

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities**Storage conditions**

Store in original, properly-sealed container in ambient conditions for temperature and humidity.

Avoid exposure of material to direct sunlight. Isolate from any source of heat or ignition.

Storage class

Storage class (TRGS 510): 11: Combustible Solids

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

Change contaminated clothing. Wash hands after working with substance.

Personal protective equipment:

Eye/face protection

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

Skin protection

When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact

Material: Viton®

Minimum layer thickness: 0.7 mm

Break through time: 480 min

Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M)

When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.4 mm

Break through time: 30 min

Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

Body Protection

protective clothing

Respiratory protection

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Control of environmental exposure

Do not let product enter drains.

SECTION 9. PHYSICAL/CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

General Information

Physical state	Powder
Colour	White
Odor	No data available
Odor Threshold	No data available
pH(1% in H₂O)	9.5 - 11.0 at 209.2 g/l at 25 °C

Melting point/freezing point	ca.104 °C at ca.1,013.25 hPa - OECD Test Guideline 102
Boiling point or initial boiling point and boiling range	No data available
Flammability(solid, gas)	The product is not flammable. - Flammability (solids)
Lower and upper explosion limit	
Lower:	No data available
Upper:	No data available
Flash point:	No data available
Auto-ignition temperature:	> 400 °C- Relative self-ignition temperature for solids does not ignite
Decomposition temperature:	ca.250 °C
pH	No data available
Viscosity:	
Viscosity, Kinematic	No data available
Viscosity, dynamic:	No data available
Dynamic:	No data available
Solubility	
water	ca.579.9 g/l at 20 °C - OECD Test Guideline 105
Partition coefficient n-octanol/water	log Pow: -2.26 at 20 °C - Bioaccumulation is not expected.
Vapour pressure at 20 °C:	No data available
Density and/or relative density	
Density at 20 °C	ca.1.4 g/cm ³ at 20.3 °C - OECD Test Guideline 109
Relative density	No data available
Vapour density	No data available
Explosive properties	No data available
Oxidizing properties	No data available
9.2 Other information:	
Surface tension	ca.67.2 mN/m at 1.01g/l at 20 °C- OECD Test Guideline 115

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity:

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature)

10.3 Possibility of hazardous reactions:

Violent reactions possible with:
Strong oxidizing agents

10.4 Conditions to avoid:

No further relevant information available.

10.5 Incompatible materials:

No data available

10.6 Hazardous decomposition products:

In the event of fire: see section 5

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects**Acute toxicity:**

LD50 Oral - Rat - female - > 2,000 mg/kg

(OECD Test Guideline 423)

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Skin - reconstructed human epidermis (RhE)

Result: No irritation - 15 min

(OECD Test Guideline 439)

Serious eye damage/eye irritation

Eyes - In vitro study

Result: Causes serious eye damage. - 6 h

(OECD Test Guideline 492)

Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse

Result: negative

(OECD Test Guideline 429)

Germ cell mutagenicity

Test Type: Ames test

Test system: Escherichia coli/Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: Mutagenicity (mammal cell test): micronucleus.

Test system: Human lymphocytes

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 487

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster fibroblasts

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: Positive results were obtained in some in vitro tests.

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

Repeated dose toxicity - Rat - male and female - Oral - 55 - 67 d - NOAEL (No observed adverse effect level) - 1,000 mg/kg
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish	static test LC50 - Danio rerio (zebra fish) - > 100 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata (green algae) - > 100 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	static test EC10 - activated sludge - > 1,000 mg/l - 3 h (OECD Test Guideline 209)

12.2 Persistence and degradability:

Biodegradability

aerobic - Exposure time 28 d Result: 11.89 % - Not readily biodegradable. (OECD Test Guideline 301B)

12.3 Bioaccumulative potential:

No data available

12.4 Mobility in soil:

No data available

12.5 Results of PBT and vPvB assessment

PBT: No data available

vPvB: No data available

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects:

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

The chemical must be disposed or recycled in accordance with Waste Disposal Act. See www.epa.gov.tw for the information of chemical waste disposal companies and their contacts. Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

Not regulated as a dangerous good

UN/ID No. : Not applicable

Proper shipping name : Not applicable
Class : Not applicable
Subsidiary risk : Not applicable
Packing group : Not applicable
Labels : Not applicable
Packing instruction (cargo aircraft): Not applicable
Packing instruction (passenger aircraft): Not applicable

IMDG-Code

Not regulated as a dangerous good
UN number : Not applicable
Proper shipping name : Not applicable
Class : Not applicable
Subsidiary risk : Not applicable
Packing group : Not applicable
Labels : Not applicable

EmS Code : Not applicable

Marine pollutant : no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Inventory of Existing Chemical Substances in China (IECSC)**

Substance is listed.

Chemical Substance Inventory in Taiwan, China (TCSI)

Substance is listed.

Japan Existing and New Chemical Substances Inventory (ENCS)

Substance is not listed.

Korea Existing Chemicals List (KECL)

Substance is listed.

Korea Priority Existing Chemicals List (PEC)

Substance is not listed.

TSCA Chemical Substance Inventory

Substance is listed.

EU EINECS/ELINCS/NLP

Substance is listed.

New Zealand Inventory of Chemicals (NZIoC)

Substance is listed.

Philippine Inventory of Chemicals and Chemical Substances (PICCS)

Substance is not listed.

Australian Inventory of Industrial Chemicals (AIIC)

Substance is listed.

Canada Domestic Substances List (DSL)

Substance is not listed.

Canada Non-domestic Substances List (NDSL)

Substance is listed.

Thailand Existing Chemicals Inventory (TECI)

Substance is not listed.

Labelling according to Regulation (EC) No 1272/2008

Not applicable

Hazard pictograms

Not applicable

Signal word

Not applicable

Hazard statements

Not applicable

15.2 Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

SECTION 16. OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Abbreviations and acronyms:

NOAEL: Non Observed Adverse Effect Level

LOAEL: Lowest Observed Adverse Effect Level

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

According to Regulation 1907/2006 (EC), Article 31

Date that the SDS was prepared:	2026/01/18
Version:	4.1

Disclaimer

This SDS was prepared sincerely on the basis of the information we could obtain. However, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information, but also the laws and regulations of the organization, area and country where the product is to be used, which shall be given the first priority.

The product is supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added hereafter. If the product is to be used beyond the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The product must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set upon each user's own responsibility.

End of Safety Data Sheet