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## Material Safety Data Sheet

### SECTION 1:CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: BIS-TRIS  
Company: Suzhou YACOO Science Co., Ltd.  
Address: No.128,FangZhou Road,Suzhou Industrial Park,China  
Tel: 0512-87182055  
Fax: 0512-87182056

### SECTION 2: Hazards identification

#### 2.1Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Serious eye damage (Category 1), H318

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### 2.2Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal Word Danger

Hazard statement(s)

H318Causes serious eye damage.

Precautionary statement(s)

P280Wear eye protection/ face protection.

P305 + P351 + P338IF IN EYES: Rinse cautiously with water for several minutes.

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

Supplemental Hazard Statements

none

#### 2.3Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms: 2-Bis(2-hydroxyethyl)amino-2-(hydroxymethyl)-1,3-propanediol

Bis(2-hydroxyethyl)amino-tris(hydroxymethyl)methane 2,2-Bis(hydroxymethyl)-2,2',2''-nitrilotriethanol

Formula: C<sub>8</sub>H<sub>19</sub>NO<sub>5</sub>

Molecular weight: 209,24 g/mol

CAS-No.: 6976-37-0

EC-No.: 230-237-7

Component	Classification	Concentration
<b>2-[Bis(2-hydroxyethyl)amino]-2-(hydroxymethyl)propane-1,3-diol</b>		
CAS-No. 6976-37-0 EC-No. 230-237-7	Eye Dam. 1; H318	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 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: Firefighting measures

### 5.1 Extinguishing media Suitable extinguishing media

Water Foam Carbon dioxide (CO<sub>2</sub>) 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<sub>x</sub>) 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 Further information

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 materials for containment and cleaning up

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

For disposal see section 13.

### **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

Tightly closed. Dry.

Storage class

Storage class (TRGS 510): 13: Non 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

#### 8.2 Exposure controls

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

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. 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](http://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)

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. 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.

Recommended Filter type: Filter type P2

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

a) Physical state Crystalline powder

b) Color white

c) Odor No data available

d) Melting point/freezing point

e) Initial boiling point and boiling range

ca. 104 ° C at ca. 1.013,25 hPa - OECD Test Guideline 102

f) Flammability (solid, gas) The product is not flammable. - Flammability (solids)

g) Upper/lower flammability or explosive limits No data available

h) Flash point No data available

i) Autoignition temperature > 400 ° C

- Relative self-ignition temperature for solids does not ignite

j) Decomposition temperature ca. 250 ° C

k) pH 9,5 - 11,0 at 209,2 g/l at 25 ° C

l) Viscosity

Viscosity, kinematic: No data available

Viscosity, dynamic: No data available

m) Water solubility ca. 579,9 g/l at 20 ° C - OECD Test Guideline 105

n) Partition coefficient: n-octanol/water

log Pow: -2,26 at 20 ° C - Bioaccumulation is not expected.

o) Vapor pressure No data available

p) Density ca. 1,4 g/cm<sup>3</sup> at 20,3 ° C - OECD Test Guideline 109

Relative density No data available

q)Relative vapor density No data available

r)Particle characteristics No data available

s)Explosive properties No data available

t)Oxidizing properties none

9.2Other safety information

Surface tensionca.67,2 mN/m at 1,01g/l at 20 ° C

- OECD Test Guideline 115

## **SECTION 10: Stability and reactivity**

### 10.1Reactivity

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.

### 10.2Chemical stability

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

### 10.3Possibility of hazardous reactions

No data available

### 10.4Conditions to avoid

no information available

### 10.5Incompatible materials

Strong oxidizing agents

### 10.6Hazardous decomposition products

In the event of fire: see section 5

## **SECTION 11: Toxicological information**

### 11.1Information 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 Endocrine disrupting properties Product:

Assessment The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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 alga 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

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties Product:

Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

No data available

### **SECTION 13: Disposal considerations**

13.1 Waste treatment methods Product

See [www.retrologistik.com](http://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**

14.1 UN number

ADR/RID: -IMDG: -IATA: -

14.2 UN proper shipping name ADR/RID: Not dangerous goods IMDG: Not dangerous goods IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: -IMDG: -IATA: -

14.4 Packaging group

ADR/RID: -IMDG: -IATA: -

14.5 Environmental hazards

ADR/RID: noIMDG Marine pollutant: noIATA: no

14.6 Special precautions for user

No data available

Further information

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Other regulations

Take note of Dir 94/33/EC on the protection of young people at work.

## 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

### **SECTION 16: OTHER INFORMATION**

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.