



SECTION 1 - Chemical Product and Company Identification

1.1 Product Identifiers

Product Name:	: Bis-Tris
CAS #:	: 6976-37-0
EC #:	: 230-237-7
RTECS #:	: Not available
REACH Registration Number	: Not available

1.2 Recommended Use of the Chemical and Restrictions of Use

Chemical Manufacturing

1.3 Supplier Details

Supplier:	BioSpectra, Inc. 100 Majestic Way Bangor, PA 18013 T: 610.599.3400 ra@biospecta.us
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1.4 Emergency Numbers

Emergency number:	US & Canada: 1-800-424-9300 Outside the US & Canada: +1 703-527-3887
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SECTION 2 – Hazard Identification


2.1 Classification of Substance or Mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Serious eye irritation (Category 2), H319

See section 16 for additional information.

2.2 GHS Label Elements Including Precautionary Statements

Pictogram	
Signal Word	Warning
Hazard statement(s)	H315 – Causes skin irritation H319 - Causes serious eye irritation. H335: May cause respiratory irritation. Specific Target Organ, single exposure; Respirator tract irritation
Precautionary Statement(s)	P261-Avoid breathing dust/fume/gas/mist/vapors/spray P264 + P265 – Wash hands thoroughly after handling P271 – Use only outdoors or in a well-ventilated area P280 – Wear protective gloves/protective clothing/eye protection/face protection.

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P302 + P352-IF ON SKIN: Wash with plenty of water and soap.

P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305 + P351 + P338- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P319- Get medical help if you feel unwell.

P332 + P317- If skin irritation occurs: Get emergency help.

P337 + P317 – If eye irritation develops: Get emergency help.

P362 + P364 – Take off contaminated clothing and wash it before use.

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

P501 – Dispose of contents/container to an approved disposal facility.

2.3 Hazards not Classified or not Covered by the GHS

None

SECTION 3 – Composition, Information on Ingredients

Component	Classification	Concentration
2-[Bis(2-hydroxy-ethyl)-amino]-2-hydroxymethyl-propane-1,3-diol	Eye Dam. 2; H319	<=100%

Synonyms : 2-(bis(2-hydroxyethyl)amino)-2(hydroxymethyl)-1,3-propanediol
Bis(2-hydroxyethyl)aminotris(hydroxymethyl)methane
2,2-Bis(hydroxymethyl)-2,2',2"-nitrilotriethanol

EC Number : 230-237-7
CAS Number : 6976-37-0
Molecular Formula : C₈H₁₉NO₅
Molecular Weight : 209.24 g/mol

SECTION 4 – First Aid Measures

4.1 Description of Necessary First Aid Measures

Eyes : Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Immediately call in ophthalmologist. Remove contact lenses.

Skin : Take off contaminated clothing immediately. Rinse contaminated area with plenty of water for at least 15 minutes.

Ingestion : Immediately drink plenty of water to dilute. DO NOT induce vomiting unless instructed to do so by a medical professional. Never give anything by mouth to an unconscious person.

Inhalation : Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. Contact a physician.

Notes to Physician : Treat symptomatically and supportively.

4.2 Most Important Symptoms/Effects, Acute and Delayed

Refer to Section 2.2 for Precautionary Statements if any are applicable

4.3 Indication of Immediate Medical Attention and Special Treatment

No information available

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SECTION 5 - Firefighting Measures

5.1 Extinguishing Media

Water spray, alcohol-resistant foam, dry chemical or carbon dioxide

5.2 Specific Hazards Associated with this Chemical

Carbon Oxides, Nitrogen Oxides (NO_x), Sodium oxides

Combustible

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

5.3 Special Equipment/Precautions for Firefighters

May be combustible at high temperatures. As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source. In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Explosion will appear as fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

5.4 Other Information

Suppress (knock down) gases/vapors and/or 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

Avoid dust formation. Avoid breathing vapors, mist or gas. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures and consult an expert. Use proper personal protective equipment as indicated in Section 8.

6.2 Environmental Precautions

Do not allow product to 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. Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions.

6.4 Other Information

For disposal instructions see section 13.

SECTION 7 - Handling and Storage

7.1 Precautions for Safe Handling

For safe handling precautions, see section 2.2.

7.2 Conditions for Storage Including any Incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Storage Class (TRGS 510): Noncombustible solids. Hygroscopic.

7.3 Other Information

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

Chemical does not contain any substances with occupational exposure limits

8.2 Engineering Controls

Change contaminated clothing. Wash hands after working with substance.

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8.3 Personal Protective Equipment

Eyes

Use safety glasses with side-shields for eye protection that have been tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin

Wear appropriate protective gloves to prevent skin exposure.
 Wear impervious gloves: Nitrile rubber with layer thickness 0.11mm.
 Full contact & Splash Contact
 Material: Nitrile rubber
 Minimum layer thickness: 0.11 mm (4 mil)
 Break through time: 480 min
 Material tested: Dermatril® (KCL 740 / Aldrich Z677272, 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).

Clothing

Wear appropriate protective clothing to prevent skin exposure

Respirators

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environment exposure

Do not let product enter drains

SECTION 9 - Physical and Chemical Properties

Physical State	: Solid
Appearance	: White particulate/powder
Odor	: Not available
pH	: 8.8-9.8
pK _a	: 6.3 – 6.7 at 25°C
Vapor Density	: Not available
Viscosity	: Not available
Melting Range	: 100 - 105 °C
Boiling Point	: 412.13°C
Decomposition Temperature	: 250°C
Specific Gravity/Density	: Not available
Solubility	: 579.9 g/L at 20 °C
Molecular Formula	: C ₈ H ₁₉ NO ₅
Molecular Weight	: 209.24 g/mol

SECTION 10 - Stability and Reactivity

10.1 Chemical Stability

Stable under standard ambient conditions (room temperature).

10.2 Conditions to Avoid

Not data available

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10.3 Incompatibilities with Other Materials

Strong oxidizing agents

10.4 Hazardous Decomposition Products

Other decomposition products – No data available.

In the event of fire, see section 5.

10.5 Hazardous Polymerization

Not data available

SECTION 11 - Toxicological Information**11.1 Toxicological Effects**

LD50/LC50 Oral, rat	: LD50 => 2000 mg/kg
LD50/LC50 Dermal, rat	: No data available
Carcinogenicity	: CAS# 6976-37-0: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA
Epidemiology	: Reconstructed human epidermis (RhE) Result no irritation – 15 min
Teratogenicity	: No data available
Reproductive Effects	: None listed
Neurotoxicity	: No data available
Mutagenicity	: No data available
Other Studies	: No data available

11.2 Additional Information

RTECS# : Not available

Repeated dose toxicity - rat - Oral - No observed adverse effect level - 1,000 mg/kg

To the best of our knowledge the associated physical, chemical and toxicological properties of this chemical have not undergone thorough investigation, all known information is contained in this SDS.

SECTION 12 - Ecological Information**12.1 Ecotoxicity**

Toxicity to Daphnia and Other Aquatic Invertebrates	
LC50 – Danio rerio (zebra fish)	> 100 mg/l – 96h
EC50 – Daphnia magna (Water flea)	> 100 mg/l – 48h
ErC50 - Pseudokirchneriella subcapitata (green algae)	> 100 mg/l – 72h
EC10 – activated sludge	>1,000 mg/l – 3h

12.2 Persistence and Degradability

Biodegradability Result	: Aerobic – Exposure time 28d Result: 11.89% - Not readily biodegradable
Method	: OECD Test Guideline 301B

12.3 Bio accumulative Potential

No information available

12.4 Mobility in Soil

No information available

12.5 Results of PBT and vPvB Assessment

No information available as chemical safety assessment not required/not conducted

12.6 Other Adverse Effects

No information available

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SECTION 13 - Disposal Considerations

For disposal of containers/content, follow all local, state, and federal laws. Use a permitted TSDF.

SECTION 14 - Transport Information

Regulations	US DOT	IATA	IMDG	Further information
Shipping Name	Not Dangerous Goods	Not Dangerous Goods	Not Dangerous Goods	Not classified as dangerous in the meaning of transport regulations
Hazard Class				
UN Number				
Packing Group				

SECTION 15 - Regulatory Information**15.1 EHS Chemical Specific Regulations****SARA:**

Section 302	:	This material does not contain any components with a section 302 EHS TPQ
Section 313	:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
SARA 311/312 Hazards	:	No SARA Hazards

STATE SPECIFIC:

Massachusetts Right to Know Components	:	No components are subject to the Massachusetts Right to Know Act.
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SECTION 16 - Additional Information**16.1 Hazard Ratings**

NFPA Rating	
Health hazard	2
Fire Hazard	1
Reactivity Hazard	0

HMIS Classification	
Health hazard	2
Flammability	0
Physical Hazards	0

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