



### SECTION 1 - Chemical Product and Company Identification

#### 1.1 Product Identifiers

Product Name : Tris Hydrochloride  
 CAS # : 1185-53-1  
 EC# : 214-684-5  
 RTECS# : Not Applicable  
 REACH Registration No : 01-2120301688-54-0009

#### 1.2 Recommended Use of the Chemical and Restrictions of Use

Chemical manufacturing and laboratory use.

#### 1.3 Supplier Details

**Supplier** BioSpectra, Inc.  
 100 Majestic Way  
 Bangor, PA 18013  
 T: 610.599.3400  
 ra@biospectra.us

#### 1.4 Emergency Numbers


Emergency Numbers US & Canada: 1-800-424-9300  
 Outside the US & Canada: +1 703-527-3887

### SECTION 2 – Hazard Identification

#### 2.1 Classification According to Regulation (EC) No 1272/2008 (CLP) as Amended and GHS Classification in Accordance with 29 CFR 1910 (OSHA)

Skin irritation (Category 2) : H315  
 Eye irritation (Category 2A) : H319  
 Specific Target Organ Toxicity: Single : H335  
 Exposure -Respiratory Tract Irritation  
 (Category 3)

#### 2.2 GHS Label Elements Including Precautionary Statements

Hazard Pictogram : 

Signal Word : Warning

Hazard Statement(s) : H315 - Causes skin irritation  
 : H319 - Causes serious eye irritation.  
 : H335 - May cause respiratory irritation

Precautionary Statement(s) : P261 - Avoid breathing dust/fume/gas/mist/vapors/spray  
 : P270 - Do not eat, drink or smoke when using this product.  
 : P280 - Wear protective gloves/eye protection/face protection.  
 : P302+ P352 - IF ON SKIN: Wash with plenty of soap and water.

- : P304+ P340+ P312 – IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
- : P305+ P351+ P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- : P321 - Specific treatment (see supplemental first aid instructions on this SDS).
- : P332+ P313 - If skin irritation occurs: Get medical advice/attention.
- : P337+ P313 - If eye irritation persists: Get medical advice/attention.
- : P403+ P233 - Store in a well-ventilated place. Keep container tightly closed.
- : P501 - Dispose of contents/containers to an approved waste disposal plant.

### 2.3 Other Hazards

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

## SECTION 3 – Composition, Information on Ingredients

Component	Classification	Concentration
Tris (Hydroxymethyl) Aminomethane Hydrochloride	Not Applicable	>99%

- Synonyms : 2-Amino-2-(Hydroxymethyl)-1,3-Propanediol Hydrochloride; Tris (Hydroxymethyl) Aminomethane Hydrochloride
- EC Number : 214-684-5
- CAS Number : 1185-53-1
- Molecular Formula :  $\text{NH}_2\text{C}(\text{CH}_2\text{OH})_3 \cdot \text{HCl}$
- Molecular Weight : 157.60 g/mol

## SECTION 4 – First Aid Measures

### 4.1 Description of Necessary First Aid Measures

- General Advice : Consult a physician. Show this Safety Data Sheet to the treating physician.
- Eyes : Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Consult a physician irritation develops or persists.
- Skin : Immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Consult a physician if irritation develops or persists.
- Ingestion : Do not induce vomiting. Never give anything by mouth to an unconscious person. If person is awake, rinse mouth out with water. Consult a physician.
- Inhalation : Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Consult a physician if cough or other symptoms appear.

### 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.

## SECTION 5 - Firefighting Measures

### 5.1 Extinguishing Media

- Suitable Extinguishing Media : Water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- Unsuitable Extinguishing Media : Water Jet.

## 5.2 Specific Hazards Associated with this Chemical

Hydrogen Chloride (HCl), Nitrogen Oxides (NO<sub>x</sub>), Carbon Monoxide (CO), Carbon Dioxide (CO<sub>2</sub>).

## 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

None available.

## SECTION 6 - Accidental Release Measures

### 6.1 Personal Precautions, Protective Equipment and Emergency Procedures

Avoid dust formation. Avoid breathing vapours, mist or gas. Use proper personal protective equipment as indicated in Section 8.

### 6.2 Environmental Precautions

Do not allow to enter drains.

### 6.3 Methods and Materials for Containment and Cleaning Up

Clean up spills immediately, observing precautions in the Protective Equipment section. Cover drains. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions.

### 6.4 Other Information

None available.

## SECTION 7 - Handling and Storage

### 7.1 Precautions for Safe Handling

Avoid dust formation. Wash thoroughly after handling. Use with adequate ventilation.

### 7.2 Conditions for Storage Including any Incompatibilities

Store in a cool, dry, well-ventilated area away from incompatible substances.

### 7.3 Specific End Uses

No Information Available.

## SECTION 8 - Exposure Controls, Personal Protection

### 8.1 Control Parameters

Chemical does not contain any substances with occupational exposure limits.

### 8.2 Engineering Controls

Use adequate ventilation to keep airborne concentrations low.

### 8.3 Personal Protective Equipment

#### Eyes

Wear appropriate protective eyeglasses or chemical safety Goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

#### Skin

Wear appropriate protective gloves to prevent skin exposure. Wear impervious gloves: Nitrile rubber with layer thickness 0.11mm.

## Clothing

Wear appropriate protective clothing to prevent skin exposure.

## Respirators

Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. A respiratory protection program that meets OSHA's 29 CFR '1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

## SECTION 9 - Physical and Chemical Properties

Physical State	: Solid (powder, crystalline)
Color	: White
Odor	: Odorless
Odor Threshold	: No data available
pH	: 3.5-5.5 (0.5M)
Melting Point/Freezing Point	: 150 - 152 °C
Initial Boiling Point and Boiling Range	: No data available
Flash Point	: No data available
Evaporation Rate	: No data available
Flammability (solid, gas)	: No data available
Lower Explosion Limit (LEL)	: No data available
Upper Explosion Limit (UEL)	: No data available
Explosion Limits of Dust Clouds	: No data available
Vapor Pressure	: No data available
Density	: No data available
Vapor Density	: No data available
Relative Density	: No data available
Water Solubility	: 101 g/100 mL
n-Octanol/Water (log KOW)	: No data available
Auto-Ignition Temperature	: No data available
Decomposition Temperature	: No data available
Viscosity	: No data available
Explosive Properties	: None
Oxidizing Properties	: None
Molecular Weight:	: 157.60 g/mol
Molecular Formula:	: $\text{NH}_2\text{C}(\text{CH}_2\text{OH})_3 \cdot \text{HCl}$

## SECTION 10 - Stability and Reactivity

### 10.1 Reactivity

Dust Explosibility.

### 10.2 Chemical Stability

Stable under normal temperatures and pressures.

### 10.3 Possibility of Hazardous Reactions

Violent reaction with : Strong Oxidizers

### 10.4 Conditions to Avoid

Incompatible materials.

## 10.5 Incompatibilities with Other Materials

Bases, oxidizing agents.

## 10.6 Hazardous Decomposition Products

Not available.

## 10.7 Hazardous Polymerization

Will not occur.

## SECTION 11 - Toxicological Information

### 11.1 Information on Toxicological Effects

Acute Toxicity	: Shall not be classified as acutely toxic.
Skin Corrosion/Irritation	: Causes skin irritation.
Serious Eye Damage/Eye Irritation	: Causes serious eye irritation.
Carcinogenicity	: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology	: No data available.
Teratogenicity	: No data available.
Reproductive Effects	: No data available.
Neurotoxicity	: No data available.
Mutagenicity	: No data available.
Other Studies	: No data available.

### 11.2 Additional Information

RTECS # : Not Applicable

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	
EC50 - Daphnia	>100 mg/l - 48 h
Toxicity to Algae EC50 – Other Microorganisms	1000 mg/l - 3 h

### 12.2 Persistence and Degradability

Biodegradability Result : Readily biodegradable according to appropriate OECD test

### 12.3 Bioaccumulative Potential

No information available.

### 12.4 Mobility in Soil

No information available.

### 12.5 Results of PBT and vPvB Assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

### 12.6 Other Adverse Effects

No information available.

## SECTION 13 - Disposal Considerations

Dispose of in a manner consistent with National, Federal, State, and Local Regulations.

## SECTION 14 - Transport Information

Regulations	US DOT	IATA	IMDG	ADR
Shipping Name	Not Dangerous Goods	Not Dangerous Goods	Not Dangerous Goods	Not Dangerous Goods
Hazard Class				
UN Number				
Packing Group				

## SECTION 15- Regulatory Information

### 15.1 EHS Chemical Specific Regulations

#### European Union:

EU Regulations Regulation (EC) No. 2037/2000 Substances that deplete the ozone layer	: None
Regulation (EC) No. 850/2004 on persistent organic pollutants	: None
Regulation (EC) No. 689/2008 Import and export of dangerous chemicals	: None
Regulation (EC) No. 1907/2006 REACH Annex XIV Substance subject to authorization, as amended	: None
Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use	: None
Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens and mutagens at work	: None
Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breast feeding	: None
Directive 96/82/EC (Seveso III): on the control of major accident hazards involving dangerous substances	: None
EU. Regulation No. 166/2006 PRTR (Pollutant Release and Transfer Registry), Annex II: Pollutants	: None
Directive 98/24/EC on the protection of workers from the risks related to chemical agents at work	: None

#### United States:

##### SARA:

Section 302 (RQ)	: None of the chemicals in this material have an RQ.
Section 302 (TPQ)	: None of the chemicals in this product have a TPQ.
Section 313	: No chemicals are reportable under 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.
Pennsylvania Right To Know Components	: Tris (hydroxymethyl) aminomethane HCl CAS# 1185-53-1.
New Jersey Right To Know Components	: Tris (hydroxymethyl) aminomethane HCl CAS# 1185-53-1.
California Prop. 65 Components	: No Significant Risk Level: None of the chemicals in this product are listed.

## SECTION 16 - Additional Information

### 16.1 Hazard Ratings

HMIS Rating	
Health Hazard	2
Flammability	1
Physical Hazard	0

**NFPA Rating**

<b>Health Hazard</b>	<b>2</b>
<b>Fire Hazard</b>	<b>1</b>
<b>Reactivity Hazard</b>	<b>1</b>

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