



# Product Specifications

## TRIS UltraPure – Molecular Biology Grade - ACS

<u>Catalog #</u>	<u>Size</u>
IB70142	500gm
IB70144	1Kg
IB70145	5Kg
IB70147	50Kg

### Physical Specifications

CAS#	77-86-1
Molecular Formula	C <sub>4</sub> H <sub>11</sub> NO <sub>3</sub>
Molecular Weight	121.14
Appearance	white crystals or powder
pH (0.05M in H <sub>2</sub> O @ 25°C)	10.3 -10.5
Moisture	Max. 2.0%
Insolubles	Max. 0.005%
A <sub>280</sub> (1M, water)	Max. 0.05
A <sub>290</sub> (40% solution in H <sub>2</sub> O)	Max. 0.2
Arsenic	<5ppm
Lead	<1ppm
Iron	<2ppm
Copper	<1ppm
Magnesium	<10ppm

### Molecular Biology Specifications

Electrophoresis	Pass
DNase assay	None Detected
RNase assay	None Detected
Protease assay	None Detected

### Recommended Use

Tris is commonly used in biological and electrophoresis buffer systems.

### Storage

Store at room temperature. Protect from moisture.

### Warning

Irritant. Causes irritation to the eyes, skin, and mucous membranes. Avoid breathing dust. Wash thoroughly with water after handling. See Material Safety Data Sheet for additional information.



## IBI SCIENTIFIC

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Rev. 3

### 1. IDENTIFICATION OF THE SUBSTANCE/ MIXTURE AND THE COMPANY/UNDERTAKING

**Product Name:** Tris  
**Product Code:** IB70142, IB70144, IB70145, & IB70147  
**Recommend Use:** For further manufacturing use only  
Not for human or animal drug use  
Used in buffer formulated for biological systems  
**Synonyms:** ADDEX-THAM \* 2-AMINO-2-(HYDROXYMETHYL)PROPANE-1,3-DIOL \* 2-AMINO-2-(HYDROXYMETHYL)-1,3-PROPANEDIOL \* 2-AMINO-2-METHYLOL-1,3-PROPANEDIOL \* AMINOTRIMETHYLOLMETHANE \* AMINOTRIS(HYDROXYMETHYL)METHANE \* METHYLAMINE, 1,1,1-TRIS(HYDROXYMETHYL)- \* PEHANORM \* TALATROL \* THAM-E \* THAM SET \* TRIMETHYLOLAMINOMETHANE \* TRIS (BUFFERING AGENT) \* TRISAMINE \* TRIS-AMINO \* TRISAMINOL \* TRIS BUFFER \* TRIS-HYDROXYMETHYL-AMINOMETHAN (GERMAN) \* TRIS-HYDROXYMETHYLAMINOMETHANE \* TRIS(HYDROXYMETHYL)METHANAMINE \* TRIS(HYDROXYMETHYL)METHYLAMINE \* TRISPUFFER \* TRIS-STERIL \* TROMETAMOL \* TROMETAMOLE \* TROMETHAMINE \* TROMETHANE \* TROMETHANMIN \* TUTOFUSIN TRIS \*  
**Company:** IBI SCIENTIFIC  
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### 2. HAZARDOUS IDENTIFICATION

#### GHS – Classification

**Classification:** Skin Irritant 2 Eye Irritant 2  
**Signal Word:** Warning



**Hazard Statements:** H315-Causes skin irritation \* H319-Causes serious eye irritation \* H335-May cause respiratory irritation

**Precautionary Statements:** P261-Avoid breathing dust/fume/gas/mist/vapors/spray \* P305+P351+P338-IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Chemical Name:** Tris (hydroxymethyl)aminomethane  
**EC No.:** EEC No. 201-064-4  
**REACH Reg. No.:** Not Available  
**CAS No.:** 77-86-1  
**Weight %:** 95 – 100  
**Classification:** Xi; R36/37/38

### 4. FIRST AID MEASURES

**Eye Contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.  
**Skin Contact:** Wash off immediately with soap and plenty of water, removing all contaminated clothes and shoes.  
**Inhalation:** Move to fresh air. If breathing is difficult, give oxygen.  
**Ingestion:** Clean mouth with water and afterwards drink plenty of water.  
**Notes to Physician:** Treat symptomatically.

### 5. FIRE FIGHTING MEASURES

**Flammable Properties:** Not flammable  
**Flash Point:** Not determined  
**Suitable Extinguishing Media:** Dry chemical, CO<sub>2</sub>, water spray, regular foam  
**Hazardous Combustion Products:** Carbon oxides, Nitrogen oxides (NO<sub>x</sub>)  
**Explosion Data**  
Sensitivity to Mechanical Impact: Not sensitive  
Sensitivity to Static Discharge: Not sensitive  
**Protective Equip. & Precautions for Firefighters:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equiv.) and full protective gear.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Avoid contact with skin, eyes, and clothing. Ensure adequate ventilation.  
**Methods for Containment:** Prevent further leakage or spillage, if safe to do so.  
**Methods for Cleaning Up:** Sweep up and place in closed containers for disposal.

### 7. HANDLING AND STORAGE

**Handling:** Avoid contact with skin, eyes, and clothing. Remove and wash contaminated clothing before re-use. Do not breathe vapors/dust. Hygroscopic. Handle in accordance with good industrial hygiene and safety practice.  
**Storage:** Hygroscopic. Keep container tightly closed in a dry and cool place.  
**Incompatible Products:** Strong oxidizing agents. Bases.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>Chemical Name:</b>	Tris (hydroxymethyl)aminomethane - #77-86-1
ACGIH TLV:	-
OSHA PEL:	-
NIOSH IDLH:	-
<b>Engineering Measures:</b>	Showers, Eyewash Stations, Ventilation Systems

#### **Personal Protective Equipment**

Eye/Face Protection:	Safety glasses with side shields.
Skin & Body Protection:	Wear protective gloves/clothing.
Respiratory Protection:	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
<b>Hygiene Measures:</b>	Handle in accordance with good industrial hygiene and safety practice.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	White powder
<b>Odor:</b>	No information available
<b>Odor Threshold:</b>	No information available
<b>Decomposition Temp. °C:</b>	No information available
<b>Freezing Point:</b>	No information available
<b>Initial Boiling Point:</b>	No information available
<b>Physical State:</b>	Crystalline powder to needle-like crystals
<b>pH:</b>	No data available
<b>Flash Point:</b>	Not determined
<b>Autoignition Temp. °C:</b>	No data available
<b>Boiling Point/Range:</b>	219-220°C
<b>Melting Point/Range:</b>	No data available
<b>Flammability Limits (Air):</b>	<u>Upper</u> -No data available * <u>Lower</u> -No data available
<b>Explosion Limits</b>	No information available
<b>Explosive Properties:</b>	No information available
<b>Oxidizing Properties:</b>	No information available
<b>Evaporation Rate:</b>	No information available
<b>MMHG @ 37.8°C:</b>	No data available
<b>Vapor Density:</b>	No data available
<b>Specific Gravity:</b>	No data available
<b>Solubility:</b>	No information available
<b>Partition Coefficient (n-octanol/water):</b>	No data available
<b>Viscosity:</b>	No information available

### 10. STABILITY AND REACTIVITY

<b>Stability:</b>	Stable under recommended storage conditions.
<b>Incompatible Products:</b>	Strong oxidizing agents. Bases.
<b>Conditions to Avoid:</b>	Protect from moisture.
<b>Hazardous Decomposition Products:</b>	Carbon oxides. Nitrogen oxides (NOx).
<b>Hazardous Polymerization:</b>	Hazardous polymerization does not occur.

### 11. TOXICOLOGICAL INFORMATION

#### Acute Toxicity

Product Information: Causes skin and eye irritation.  
Chemical Name: Tris (hydroxymethyl)aminomethane - #77-86-1  
LD50 Oral: 5900mg/kg (Rat)  
LD50 Dermal: -  
LC50 Inhalation: -

#### Chronic Toxicity

Chronic Toxicity: No known effect based on information supplied.

**Target Organ Effects:** Skin, Eyes, Respiratory system.

### 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** The environmental impact of this product has not been fully investigated

### 13. DISPOSAL CONSIDERATIONS

**Water Disposal Method:** Dispose of material in accordance with all federal, state, and local regulations.  
**Contaminated Packaging:** Dispose of in accordance with all federal, state, and local regulations.

### 14. TRANSPORT INFORMATION

#### IATA

Not regulated

#### US DOT

Not regulated

### 15. TOXICOLOGICAL INFORMATION

#### REACH Title VII Restrictions

Chemical Name:	No information available
Dangerous Substances:	Tris (hydroxymethyl)aminomethane - #77-86-1
Organic Solvents:	Not applicable
Harmful Substances Whose Names are to be indicated on the Label:	Not applicable
Pollution Release and Transfer Registry (Class II):	Not applicable
Pollution Release and Transfer Registry (Class I):	Not applicable
Poison and Deleterious Substances Control Law:	Not applicable
ISHA – Harmful Substances Prohibited for Manufacturing, Importing, Transferring, or Supplying:	Not applicable
ISHA – Harmful Substances Requiring Permission:	Not applicable
Toxic Chemical Classification Listing (TCCL):	Not applicable
Toxic Release Inventory (TRI) – Group I:	Not applicable
Toxic Release Inventory (TRI) – Group II:	Not applicable

#### International Inventories

TSCA:	Complies
EINECS/ELINCS:	Complies
ENCS:	Complies
IECSC:	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

**U.S. Federal Regulations**

**SARA 313**

Section 313 of Title III of the superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical/chemicals which are subject to the reporting requirements of the Act & Title 40 of the Code of Federal Regulations, part 372.

**SARA 311/312 Hazard Categories**

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

**Clean Water Act**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**Clean Air Act**

This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

**CERCLA**

**U.S. State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**International Regulations**

**Mexico**

No information available

**Canada**

No information available

**WHMIS Hazard Class**

D2B – Toxic materials



**16. OTHER INFORMATION**

**Issuing Date:**

02-Apr-2009

**Revision Date:**

08-Nov-2011

**Revision Note:**

Update to GHS Standard

**Recommended Restrictions:**

No information available

**Disclaimer:**

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal, and release; and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the test.

**End of MSDS**