

ALADDIN SCIENTIFIC CORPORATION  
 14078 Meridian Parkway, Riverside, CA. 92518

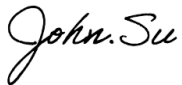
## Certificate of Analysis

Date of Testing: 2026-03-12 11:48:04  
 Date of Next Testing: 2030-03-11 11:48:04  
 Product Name: **Tris(hydroxymethyl)aminomethane (Tris base)**  
 CAS Number: 77-86-1  
 Specifications & Purity: PharmPure™, USP, Ph.Eur., for cell culture, ≥99.9%(T)  
 Lot #: B2628280  
 SKU #: **T110598**  
 Version: **2**  
 Analysis #: **653584**  
 Storage Temperature: Room temperature,Argon charged

Parameter	Limit Values	Result
Loss on drying(EP)	0-0.5 (%)	0.50000 %
Melting point	168-172 (°C)	170.72000 °C
Ignition Residue(Ash)	0-0.1 (%)	0.00600 %
Water by Karl Fischer	0-0.2 (%)	0.14000 %
Iron(Fe)(ICP)	0-1 (ppm)	0.52000 ppm
Heavy metal (as Pb)	0-2 (ppm)	1.21000 ppm
PH(5% in water)	10-11.5	11.25000
UV Absorbance 280nm(40%,H2O)	0-0.4	0.04600
UV Absorbance 290nm(40%,H2O)	0-0.4	0.04500
UV Absorbance 260nm(40%,H2O)	0-0.4	0.05700
Loss on Drying(USP)	≤1 (%)	0.60000 %
Chloride (Cl-)	≤100 (ppm)	3.88500 ppm
Endotoxin Level	<1 (EU/mg)	0.95000 EU/mg
Total Count Aerobic, Yeast, plus Mold	≤100 (cfu/g)	5.60000 cfu/g
Purity (Titration by H2SO4)	99.7-100.3 (%)	99.70000 %
Appearance (T110598)	White to Off-White Solid, Powder, or Crystals	White to Off-White Solid, Powder, or Crystals
Identity Test B (USP)	Pass	Pass
Identity Test C (USP)	Pass	Pass
Infrared spectrum	Conforms to Structure	Conforms to Structure
Related substances	Pass	Pass
Solubility in H2O , clear colorless , 200g plus 300ml of water	pass	Pass
Solubility in 2.5 g plus 50 ml of CO2-Free H2O (EP),colorless ,clear	Pass	Pass

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<b>Parameter</b>	<b>Limit Values</b>	<b>Result</b>
Identity Test A (USP)	Pass	Pass
DNAse, Exonuclease Detection	None Detected	none detected
NICKase, Endonuclease Detection	none Detected	none detected
RNAse Detection	None Detected	none detected
Protease Detection	None Detected	none detected
Cell Culture Test	pass	Pass

A handwritten signature in black ink that reads "John Su".

John Su  
QA & QC Manager