

Certificate of Analysis

Date of Testing: 2023-06-02 11:17:29
 Date of Next Testing: 2027-06-01 11:17:29
 Product Name: **Tris(hydroxymethyl)aminomethane**
 CAS Number: 77-86-1
 Specifications & Purity: EP, USP, for cell culture test, ≥ 99.9% (T)
 Lot #: E2329884
 SKU #: **T110598**
Analysis: 207689

Parameter	Limit Values	Result
Loss on drying(EP)	0-0.5 (%)	0.32 %
Melting point	168-172 (°C)	170.11000 °C
Ignition Residue(Ash)	0-0.1 (%)	0.03 %
Water by Karl Fischer	0-0.2 (%)	0.11 %
Iron(Fe)(ICP)	0-1 (ppm)	0.48 ppm
Purity (Titration by H2SO4)	99.7-100.3 (%)	99.75 %
Heavy metal (as Pb)	0-2 (ppm)	1.05 ppm
PH(5% in water)	10-11.5	10.85
UV Absorbance 280nm(40%,H2O)	0-0.4	0.05
UV Absorbance 290nm(40%,H2O)	0-0.4	0.04
UV Absorbance 260nm(40%,H2O)	0-0.4	0.07
Loss on Drying(USP)	≤1 (%)	0.86000 %
Chloride (Cl-)	≤100 (ppm)	98.60 ppm
Endotoxin Level	<1 (EU/mg)	0.85000 EU/mg
Total Count Aerobic, Yeast, plus Mold	≤100 (cfu/g)	99.85000 cfu/g
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
Identity Test A (USP)	Pass	Pass
DNAse, Exonuclease Detection	None Detected	none detected

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Parameter	Limit Values	Result
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