

Certificate of Analysis

Date of Testing: 2022-06-09 15:28:00
 Date of Next Testing: 2026-06-08 15:28:00
 Product Name: **Tris(hydroxymethyl)aminomethane**
 CAS Number: 77-86-1
 Specifications & Purity: EP, USP, for cell culture test, $\geq 99.9\%$ (T)
 Lot #: F2206474
 SKU #: **T110598**
Analysis: 088390

| Parameter | Limit Values | Result |
|---|---|---|
| Loss on drying(EP) | 0-0.5 (%) | 0.41 % |
| Melting point | 168-172 (°C) | 171.12000 °C |
| Ignition Residue(Ash) | 0-0.1 (%) | 0.08 % |
| Water by Karl Fischer | 0-0.2 (%) | 0.13 % |
| Iron(Fe)(ICP) | 0-1 (ppm) | 0.62 ppm |
| Purity (Titration by H ₂ SO ₄) | 99.7-100.3 (%) | 99.84 % |
| Heavy metal (as Pb) | 0-2 (ppm) | 1.10 ppm |
| PH(5% in water) | 10-11.5 | 10.70 |
| UV Absorbance 280nm(40%,H ₂ O) | 0-0.4 | 0.06 |
| UV Absorbance 290nm(40%,H ₂ O) | 0-0.4 | 0.06 |
| UV Absorbance 260nm(40%,H ₂ O) | 0-0.4 | 0.08 |
| 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 H ₂ O , clear colorless , 200g plus 300ml of water | pass | Pass |



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

John Su
QA & QC Manager