

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2022-08-25 17:22:50  
 Date of Next Testing: 2026-08-24 17:22:50  
 Product Name: **Tris(hydroxymethyl)aminomethane hydrochloride**  
 CAS Number: 1185-53-1  
 Specifications & Purity: Ultra pure, ≥99%  
 Lot #: G2227306  
 SKU #: **T105289**  
**Analysis: 101388**  
 Storage Temperature: Room temperature

Parameter	Limit Values	Result
Lead(Pb)	0-0.0005 (%)	0.00 %
Copper(Cu)	0-0.0005 (%)	0.00 %
UV Absorbance 260nm(at 1M in H2O)	0-0.06	0.01
Cobalt(Co)	0-0.0005 (%)	0.00 %
Purity (Titration by NaOH)	99-101 (%)	99.49 %
Sulfate(SO42-)	0-0.005 (%)	0.00 %
Oxygen by Elemental Analysis	30-30.7 (%)	30.19 %
Ignition Residue (as sulfate)	0-0.2 (%)	0.10 %
Carbon by Elemental Analysis	29.55%-31.38%	30.65 %
UV Absorbance 280nm(at 1M in H2O)	0-0.06	0.01
Strontium(Sr)	0-0.0005 (%)	0.00 %
Zinc(Zn)	0-0.0005 (%)	0.00 %
Cadmium(Cd)	0-0.0005 (%)	0.00 %
Barium(Ba)	0-0.0005 (%)	0.00 %
Nitrogen by Elemental Analysis	8.6-9.1 (%)	8.62 %
Bismuth(Bi)	0-0.0005 (%)	0.00 %
Loss on drying	0-0.2 (%)	0.10 %
Aluminum(Al)	0-0.0005 (%)	0.00 %
UV Absorbance 290nm(40%,H2O)	0-0.05	0.01
Appearance (T105289)	White powder or crystal	White Powder or Crystals
Infrared spectrum	Conforms to Structure	Conforms to Structure
Insoluble matter	pass	Pass
Solubility in H2O , Colorless and clear(0.5M,20°C)	pass	Pass
Proton NMR spectrum	Conforms to Structure	Conforms to Structure



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

John Su  
QA & QC Manager