

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2022-02-24 14:32:52  
 Date of Next Testing: 2024-02-14 14:32:52  
 Product Name: **Tris(hydroxymethyl)aminomethane hydrochloride**  
 CAS Number: 1185-53-1  
 Specifications & Purity: for molecular biology and cell culture, ≥99.0%(AT)  
 Lot #: B2218405  
 SKU #: **T105291**  
**Analysis:** **071050**  
 Storage Temperature: Room temperature

Parameter	Limit Values	Result
Sodium(Na)	0-50 (ppm)	0.00 ppm
UV Absorbance 260nm	0-0.06	0.02
Loss on drying	0-0.2 (%)	0.00 %
Calcium(Ca)	0-10 (ppm)	2.00 ppm
Zinc(Zn)	0-5 (ppm)	0.00 ppm
Iron(Fe)	0-5 (ppm)	0.00 ppm
Ignition Residue (as sulfate)	0-0.2 (%)	0.00 %
PH(25 °C, 4 M in Water)	2.5-4	2.85
Strontium(Sr)	0-5 (ppm)	0.00 ppm
Copper(Cu)	0-5 (ppm)	0.00 ppm
Barium(Ba)	0-5 (ppm)	0.00 ppm
UV Absorbance 290nm	0-0.05	0.01
Aluminum(Al)	0-5 (ppm)	0.00 ppm
useful PH range	7-9	8.10
Manganese(Mn)	0-5 (ppm)	0.00 ppm
Cadmium(Cd)	0-5 (ppm)	0.00 ppm
Bismuth(Bi)	0-5 (ppm)	0.00 ppm
Nickel(Ni)	0-5 (ppm)	0.00 ppm
Potassium(K)	0-50 (ppm)	0.00 ppm
UV Absorbance 280nm	0-0.06	0.01
Molybdenum(Mo)	0-5 (ppm)	0.00 ppm
Chromium(Cr)	0-5 (ppm)	0.00 ppm
Sulfate(SO42-)	0-50 (ppm)	0.00 ppm
(As)Arsenic	0-0.1 (ppm)	0.00 ppm
Magnesium(Mg)	0-5 (ppm)	0.00 ppm
Lithium(Li)	0-5 (ppm)	0.00 ppm

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Parameter	Limit Values	Result
Cobalt(Co)	0-5 (ppm)	0.00 ppm
(Pb)Lead	0-5 (ppm)	0.00 ppm
Assay(Titration by AgNO3)	99-102.5 (%)	101.84 %
Appearance (T105291)	White Powder or Crystals	White Powder or Crystals
Cell Culture Test	pass	Pass
DNases	none detected	none detected
Infrared spectrum	Conforms to Structure	Conforms to Structure
Insoluble matter	pass	Pass
phosphatases	none detected	none detected
proteases	none detected	none detected
Proton NMR spectrum	Conforms to Structure	Conforms to Structure
RNases	none detected	none detected
Solubility in H2O , soluble , 1M , 20°C, clear, colorless	pass	Pass
λ,4 M in H2O	Pass	Pass

John Su  
QA & QC Manager