

## Certificate of Analysis

Date of Testing:	2024-08-16 14:48:28
Date of Next Testing:	2027-08-16 14:48:28
Product Name:	<b>TRIS hydrochloride</b>
CAS Number:	1185-53-1
Specifications & Purity:	BioReagent Plus, ≥99%
Lot #:	G2416521
SKU #	<b>T431531</b>
Version	<b>1</b>
Analysis #:	<b>361172</b>

Parameter	Limit Values	Result
Water by Karl Fischer	0-0.5 (%)	0.22 %
Purity (Titration by NaOH)	99-101.5 (%)	100.17 %
Melting point	149-155 (°C)	152.20000 °C
pH(1% aqueous)	4.2-5	4.87000
Endotoxin	0-50 (EU/g)	6.67000 EU/g
Arsenic(As)	0-3 (ppm)	0.00000 ppm
Iron(Fe)	0-5 (ppm)	0.00 ppm
Zinc(Zn)	0-5 (ppm)	0.00 ppm
Magnesium(Mg)	0-5 (ppm)	0.00 ppm
Manganese(Mn)	0-5 (ppm)	0.00 ppm
Calcium(Ca)	0-10 (ppm)	0.00 ppm
Lead(Pb)	0-5 (ppm)	0.00 ppm
Bismuth(Bi)	0-5 (ppm)	0.00 ppm
Lithium(Li)	0-5 (ppm)	0.00 ppm
Molybdenum(Mo)	0-5 (ppm)	0.00 ppm
Aluminum(Al)	0-5 (ppm)	0.00 ppm
Antimony(Sb)	0-5 (ppm)	0.00000 ppm
Barium(Ba)	0-5 (ppm)	0.00 ppm
Cobalt(Co)	0-5 (ppm)	0.00 ppm
Chromium(Cr)	0-5 (ppm)	0.00 ppm
Cadmium(Cd)	0-5 (ppm)	0.00 ppm
Copper(Cu)	0-5 (ppm)	0.00 ppm
Nickel(Ni)	0-5 (ppm)	0.00 ppm
UV Absorbance 260nm(1M aqueous)	0-0.06	0.00500
UV Absorbance 280nm(1M aqueous)	0-0.05	0.00400
Yeast and Mold	0-100 (CFU/g)	98.00000 cfu/g

ALADDIN SCIENTIFIC CORPORATION

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Parameter	Limit Values	Result
Loss on drying	0-0.5 (%)	0.00 %
NMR Spectrum 1H	Conforms to Structure	Conforms to Structure
Solubility 1.0 M aqueous, Colorless Clear	pass	Pass

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

John Su  
QA & QC Manager