

BIOSPECTRA

100 Majestic Way, Bangor, PA 18013 / www.biospectra.us

Effective Date:	8-Aug-2022	8-Aug-2025	: Date of Next Review
Prepared By:	Amy Hosein	BSI-COA-0135 v.11.0	: Supersedes
QA/QC Approval:	Brett Brink	Carissa McCollian	: Management Approval
Reason for Revision:	See Revision History in MasterControl.		

CERTIFICATE OF ANALYSIS

TRIS HYDROCHLORIDE

BIO EXCIPIENT GRADE / NEW CODE THCL-3250-58
(HISTORICAL CODE TH3250-K050)
LOT: THCL-0124-00066

$\text{NH}_2\text{C}(\text{CH}_2\text{OH})_3\cdot\text{HCl}$ * F.W. 157.60 g/mol. * CAS# 1185-53-1

Manufacturing Date: 12/30/23 Expiration Date: 12/31/26

Manufacturing Site: 1474 Rockdale Lane, Stroudsburg, PA 18360

Packaging Date: 07/09/24 Packaging Site: 100 Majestic Way, Bangor PA, 18013

ANALYSIS	SPECIFICATION	TEST RESULT	
Absorbance (1M)	260 nm	≤ 0.06 a.u.	0.01 a.u.
	280 nm	≤ 0.06 a.u.	0.01 a.u.
	400 nm	≤ 0.01 a.u.	<0.01 a.u.
Appearance	Passes Test	Passes Test	
Assay, Dried	≥ 99.0%	99.6%	
Bioburden	≤ 100 CFU/g	<100 CFU/g	
Endotoxin	≤ 2.5 EU/g	<1.9 EU/g	
Identification	(IR)	Passes Test	Passes Test
	(Chloride)	Passes Test	Passes Test
Loss on Drying @ 105°C	≤ 0.5%	0.4%	
Melting Range	147 – 152 °C	151-152°C	
pH	(1% Aqueous Solution)	4.0 – 5.0	4.8
	(0.5M) @ 25°C	3.5 – 5.0	4.2
Trace Elements	Arsenic (As)	≤ 10 ppm	<0.45 ppm
	Calcium (Ca)	≤ 10 ppm	0.85 ppm
	Copper (Cu)	≤ 10 ppm	<0.15 ppm
	Iron (Fe)	≤ 10 ppm	<0.30 ppm
	Lead (Pb)	≤ 10 ppm	<0.30 ppm
	Magnesium (Mg)	≤ 10 ppm	<0.60 ppm
Water	≤ 2.0%	0.7%	

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