

## Certificate of Analysis

Item Number	Product Description	Lot Number
CPB-T60040-500GM	Tris Base Ultra Pure	208536- 221410
Formula	Molecular Weight	CAS Number
$C_4H_{11}NO_3$	121.1	77-86-1

**QC TEST/RELEASE DATE:** 09/13/2023

**SUGGESTED RETEST DATE:** 08/22/2026

S.No	Test	Unit	Specifications	Test Value
1	Appearance		White Crystalline Powder	passed
2	Purity (Dried Basis By GC)	%	$\geq 99.9$	100.0
3	Related Substances By GC	%	$\leq 0.1$	< 0.1
4	Water	%	$\leq 0.2$	0.1
5	Loss on Drying @ 105 °C, 3hrs	%	$\leq 1.0$	0.1
6	Melting Point	°C	170 - 172	171
7	APHA Color, 20% Aqueous solution		$\leq 20$	< 5
8	Insoluble Matter	%	$\leq 0.005$	0.000
9	Heavy Metals (as Pb)	ppm	$\leq 5$	< 5
10	Residue on Ignition	%	$\leq 0.5$	0.0
11	Iron (Fe)	ppm	$\leq 5$	< 5
12	UV Absorbance @260nm, 10% Aqueous solution		$\leq 0.03$	0.01
13	UV Absorbance @280nm, 10% Aqueous solution		$\leq 0.02$	0.01
14	UV Absorbance @290nm, 40% solution in H <sub>2</sub> O		$\leq 0.20$	0.02
15	UV Absorbance @430nm, 10% Aqueous solution		$\leq 0.004$	0.001
16	Identification A		Pass	passed

17	Identification B		Pass	passed
18	Identification C		Pass	passed
19	pH (5% in water)		10.0 - 11.5	10.9
20	Arsenic (As)	ppm	≤ 1	0
21	Chloride	ppm	≤ 100	< 100
22	Copper (Cu)	ppm	≤ 1	0
23	DNase, RNase, protease		None Detected	None Detected
24	Lead	ppm	≤ 1	0
25	Magnesium (Mg)	ppm	≤ 1	0
26	pH (1M in H <sub>2</sub> O)		10.5 - 11.5	11.0
27	Residual Solvents		Conforms to USP/EP	Conforms
28	Residue on Ignition (USP)	%	≤ 0.1	0.0
29	Solubility (2M In H <sub>2</sub> O)		Pass	passed
30	BSE/TSE Free		BSE/TSE Free	passed
31	Country of Origin		Report	USA

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