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Certificate of Analysis

Product Description: Tris, Technical Grade_**Catalog Number:** 103132_**Lot:** QR12443_**Formula:** C₄H₁₁NO₃**CAS #:** 77-86-1**Physical Description:** White Crystalline Powder**Formula Weight:** 121.14**Storage:** Room Temperature, desiccate

Test	Specification	Results
Identity Test	Passes	Passes
Purity	#96%	99.92% (Dried, GC)
FTIR	Conforms to Standard	Conforms to Standard
Melting Point	165 - 172°C	169.9-170.5°C
pH (5% aq soln)	10 - 11.5	10.8

OD260 nm (5% aq soln): 0.002

Loss on Drying: 0.0%

Solubility (40% aq soln): Clear, Colorless Solution

Residue on Ignition: 0.00%

Heavy Metals (as Pb): <5 ppm

Iron (Fe): <5 ppm

Related Substances (by GC): 0.08%

APHA Color (20% aq soln): <5

Water insoluble Matter: 0.001%

OD260 nm (10% aq soln): 0.00

OD280 nm (10% aq soln): 0.00

OD430 nm (10% aq soln): 0.000

OD290 nm (40% aq soln): 0.01

Identification A (USP): Pass

Identification B (USP/EP): Pass

Identification C (USP/EP): Pass

Residual Solvents (USP): Pass

Assay, by titration (USP/EP): Pass

Chlorides (EP): <100ppm

Recommended Retest date: 09/21/2017

07/16/2016 - John Huang, PhD
MP Biomedicals, LLC.
Quality Control Manager

A large, stylized handwritten signature in black ink, reading "J Huang". The signature is written in a cursive, flowing style with a long tail on the letter "g".

This is an electronically generated document

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