

TRIS Hydrochloride  
Biotech Reagent  
Made from Tromethamine USP



Material No.: 4106-F9  
Batch No.: 0000228992  
Manufactured Date: 2019/03/24  
Retest Date: 2024/03/22  
Release Date: 2019/04/23  
Revision No: 1

## Certificate of Analysis

GMP Manufactured Product

Test	Specification	Result
Assay ( $\text{NH}_2\text{C}(\text{CH}_2\text{OH})_3 \cdot \text{HCl}$ )	$\geq 99.0 \%$	99.6
Appearance (colorless crystals to white crystalline powder)	Passes Test	PT
Absorbance of a 1M Solution – 260 nm	$\leq 0.06$	$< 0.06$
Absorbance of a 1M Solution – 280 nm	$\leq 0.06$	$< 0.06$
Absorbance of a 1M Solution – 400 nm	$\leq 0.01$	$< 0.01$
Identification (by IR)	Passes Test	PT
Loss on Drying at 105°C	$\leq 0.5 \%$	$< 0.1$
Endotoxin Concentration (EU/g)	$\leq 2.5$	$< 1.0$
Melting Point	147 – 153 °C	150
pH of 0.5M Solution at 25°C	3.5 – 5.0	4.2
Trace Impurities – Arsenic (As)	$\leq 10 \text{ ppm}$	$< 1$
Trace Impurities – Calcium (Ca)	$\leq 10 \text{ ppm}$	$< 1$
Trace Impurities – Copper (Cu)	$\leq 10 \text{ ppm}$	$< 1$
Trace Impurities – Iron (Fe)	$\leq 10 \text{ ppm}$	$< 1$
Trace Impurities – Lead (Pb)	$\leq 10 \text{ ppm}$	$< 1$
Trace Impurities – Magnesium (Mg)	$\leq 10 \text{ ppm}$	$< 1$

CAUTION: For Manufacturing, processing or repackaging  
No Class 1,2,3 or other solvents are used or produced in the  
manufacturing or purification of the product.  
Manufactured exclusively for Avantor Performance Materials, LLC., by  
BioSpectra, Inc., Stroudsburg, PA

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700  
Avantor Performance Materials, LLC  
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Material No.: 4106-F9  
Batch No.: 0000228992

Country of Origin: US  
Packaging Site: Paris Mfg Ctr & DC  
Manufacturer: P0064001  
Manufacturer source batch: TH7201-209-0319



Jamie Ethier  
Vice President Global Quality

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