

## TRIS

BIOTECH, HIGH ASSAY, MEETS USP, GMP,  
PREMIUM REAGENT

BIO PHARMA GRADE / TRIS-4223

$C_4H_{11}NO_3$  \* F.W. 121.14 g/mol \* CAS# 77-86-1

### Intended for Use in Biopharmaceutical & Biotechnological Applications and Products

Tris (Tromethamine) is a high purity, GMP Reagent Grade, where high purity, high assay, GMP Tromethamine is required. Tris is considered a “Good’s” buffer because it has a low UV absorptivity, minimum reactivity, stable pH and is soluble in water.

### SPECIFICATIONS

ANALYSIS		SPECIFICATIONS
Trace Metals	Aluminum (Al)	≤ 5 ppm
	Arsenic (As)	≤ 1.6 ppm
	Barium (Ba)	≤ 5 ppm
	Bismuth (Bi)	≤ 5 ppm
	Cadmium (Cd)	≤ 5 ppm
	Calcium (Ca)	≤ 1 ppm
	Chromium (Cr)	≤ 5 ppm
	Cobalt (Co)	≤ 5 ppm
	Copper (Cu)	≤ 1 ppm
	Iron (Fe)	≤ 1 ppm
	Lead (Pb)	≤ 1 ppm
	Lithium (Li)	≤ 5 ppm
	Magnesium (Mg)	≤ 5 ppm
	Manganese (Mn)	≤ 1 ppm
	Molybdenum (Mo)	≤ 5 ppm
	Nickel (Ni)	≤ 5 ppm
Potassium (K)	≤ 50 ppm	
Sodium (Na)	≤ 50 ppm	
Zinc (Zn)	≤ 1 ppm	
Absorbance (1M)	260 nm	≤ 0.06 a.u.
	280 nm	≤ 0.06 a.u.
	430 nm	≤ 0.01 a.u.
Absorbance (10%)	260 nm	≤ 0.03 a.u.
	280 nm	≤ 0.02 a.u.
	430 nm	≤ 0.004 a.u.
Absorbance (40%)	290 nm	≤ 0.20 a.u.
Enzymes	DNase	None
	Protease	None
	RNase	None
APHA Color (20% Solution)		≤ 20

Assay, Dried Basis (Ultrapure)		≥ 99.9%
Endotoxin		≤ 2.5 EU/g
Heavy Metals (as Pb)		≤ 1 ppm
Insoluble Matter		≤ 0.005%
Water, KF		≤ 1.0%
Loss on Drying		≤ 0.3%
Melting Range		168 – 172°C
Microbial Content	TAMC	≤ 100 CFU/g
	TYMC	≤ 100 CFU/g
pH (5% solution)		10.0 – 11.5
Related Substances		≤ 0.1%
Residue on Ignition		≤ 0.05%
Chloride		≤ 20 ppm

### General Product Description:

Molecular Formula: C<sub>4</sub>H<sub>11</sub>NO<sub>3</sub>  
 Molecular Weight: 121.14 g/mol  
 CAS Number: 77-86-1

### Tromethamine Biotech:

- Tromethamine is a White Crystalline product.
- Is manufactured under an ICH-Q7 Quality Managed cGMP System
- Manufactured in an enzyme free, hormone free and animal free environment
- Has no known major food allergens (as defined by FDA and WHO)
- The final product nor its raw materials are not derived from nor come into contact with animals, animal parts, animal products, and/or animal byproducts or derivatives.
- Is not subject to genetic modification
- Synonyms: Tris, Tromethamine, Tris(hydroxymethyl) aminomethane

### Shelf Life Policy:

Three-year expiry from the date of manufacture.

### Storage and Shipping Conditions:

Please refer to the SDS for storage and shipping conditions.

### Package Size:

100g, 500g, 1kg, 5kg, 10kg, 25kg, 50kg