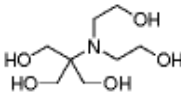


## Specification Comparison

BIS-TRIS

### Sigma-Aldrich® BIS-TRIS Physical Properties

<b>Synonyms</b>	2,2-Bis(hydroxymethyl)-2,2',2''-nitrilotriethanol				
	2-Bis(2-hydroxyethyl)amino-2-(hydroxymethyl)-1,3-propanediol				
	Bis(2-hydroxyethyl)amino-tris(hydroxymethyl)methane				
					
<b>Molecular Formula</b>	C <sub>8</sub> H <sub>19</sub> NO <sub>5</sub>	<b>Beilstein Registry</b>	2205275	<b>Useful pH range</b>	5.8 - 7.2
<b>Molecular Weight</b>	209.24	<b>MDL Number</b>	MFCD00002853	<b>pKa (at 25)</b>	6.5
<b>CAS Number</b>	6976-37-0	<b>EG/EC Number</b>	230-237-7	<b>pKa (at 37)</b>	6.36

### Sigma-Aldrich BIS-TRIS Specifications Comparison

	B9754	B4429	B7535	14879
<b>Grade</b>	≥98.0% (titration)	BioReagent, cell culture tested, suitable for insect cell culture, ≥98% (titration)	BioXtra, ≥98.0% (titration)	BioUltra, ≥99.0% (NT)
<b>Purity</b>	≥98.0%	≥98.0%	>98.0%	≥99.0%
Reagent Testing				
	B9754	B4429	B7535	14879
<b>Enhanced Quality Profile Buffers</b>	X	X	X	
<b>280NM</b>				≤0.15
<b>IR</b>	X	X	X	
<b>pH</b>	9.0 - 10.1		9.0 - 11.0 (20 °C, 1 M in H <sub>2</sub> O)	9.5 - 11.0 (25 °C, 1 M in H <sub>2</sub> O)
<b>Karl Fischer</b>	≤1%	≤1%	≤1%	
<b>LOD</b>				≤0.5%
<b>Insoluble Matter</b>			<0.1%	filter test
<b>Residue on Ignition</b>			<0.1%	≤0.3%
Life Science Testing				
	B9754	B4429	B7535	14879
<b>Endotoxin</b>		≤1 eu/mg		
<b>SPC</b>		≤100 cfu/g		
<b>Cell test</b>		X		
<b>Insect cell test</b>		X		
<b>RNAse</b>		X		
<b>DNAse</b>		X		
<b>Nickase</b>		X		
<b>Protease</b>		X		

Trace Elemental Impurities				
	B9754	B4429	B7535	14879
Ammonia(NH <sub>4</sub> )			<0.05%	
Sodium(Na)			<0.005%	≤0.005%
Phosphorus(P)			<0.005%	
Chloride(Cl)			<0.05%	≤0.005%
Sulfate(SO <sub>4</sub> )			<0.05%	≤0.005%
Aluminum(Al)			<0.0005%	≤0.0005%
Arsenic(As)				≤0.00001%
Barium(Ba)				≤0.0005%
Bismuth(Bi)				≤0.0005%
Calcium(Ca)			<0.0005%	≤0.001%
Cadmium(Cd)				≤0.0005%
Cobalt(Co)				≤0.0005%
Chromium(Cr)				≤0.0005%
Copper(Cu)			<0.0005%	≤0.0005%
Iron(Fe)			<0.0005%	≤0.0005%
Potassium(K)			<0.005%	≤0.005%
Lithium(Li)				≤0.0005%
Magnesium(Mg)			<0.0005%	≤0.0005%
Manganese(Mn)				≤0.0005%
Molybdenum (Mo)				≤0.0005%
Nickel(Ni)				≤0.0005%
Lead(Pb)	≤0.0005%	≤0.0005%	<0.001%	≤0.0005%
Strontium(Sr)				≤0.0005%
Zinc(Zn)			<0.0005%	≤0.0005%

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