

Specification Comparison

MOPS

Sigma-Aldrich® MOPS Physical Properties

Synonyms 3-(N-Morpholino)propanesulfonic acid
 4-Morpholinepropanesulfonic acid



Molecular Formula	C ₇ H ₁₅ NO ₄ S	Beilstein Registry	1106776	pKa (at 20)	7.28
Molecular Weight	209.26	MDL Number	MFCD00006183	pKa (at 25)	7.2
CAS Number	1132-61-2	EG/EC Number	214-478-5	pKa (at 37)	7.02
Useful pH Range	6.5 - 7.9				

Sigma-Aldrich MOPS Specifications Comparison

	M1254	M3183	M5162	69948	69947
Grade	≥99.5% (titration)	BPC, cell culture tested, ≥99.5% (titration)	BioXtra, >99.5% (titration)	BioUltra, ≥ 99.5% (T)	BioUltra, for molecular biology, ≥ 99.5% (T)
Purity	≥99.5%	≥99.5%	≥99.5%	≥99.5%	≥99.5%
Reagent Testing					
	M1254	M3183	M5162	69948	69947
Enhanced Quality Profile Buffers			X		
260NM			<0.020	≤0.020	≤0.020
280NM			<0.015	≤0.015	≤0.015
290NM	≤0.05	≤0.05			
IR		X			
pH			3 - 4 (20 °C, 1 M in H ₂ O)	2.5 - 4.0 (25 °C, 1 M in H ₂ O)	2.5 - 4.0 (25 °C, 1 M in H ₂ O)
Karl Fischer	≤0.1%	≤0.1%			
LOD			<1%	≤1%	≤1%
Insoluble Matter			filter test	filter test	filter test
Residue on Ignition			<0.1%	≤0.1%	≤0.1%

Life Science Testing					
	M1254	M3183	M5162	69948	69947
Endotoxin		≤0.1 eu/mg			
SPC		≤100 cfu/g			
Cell test		X			
RNAse		X			X
DNase		X			X
Nickase		X			
Protease		X			X
Phosphatase					X
Trace Elemental Impurities					
	M1254	M3183	M5162	69948	69947
Sodium(Na)			<0.005%	≤0.0050%	≤0.0050%
Chloride(Cl)			<0.05%	≤0.0050%	≤0.0050%
Sulfate(SO ₄)			<0.005%	≤0.0050%	≤0.0050%
Aluminum(Al)			<0.0005%	≤0.0005%	≤0.0005%
Arsenic(As)				≤0.00001%	≤0.00001%
Barium(Ba)			<0.0005%	≤0.0005%	≤0.0005%
Bismuth(Bi)			<0.0005%	≤0.0005%	≤0.0005%
Calcium(Ca)			<0.001%	≤0.0010%	≤0.0010%
Cadmium(Cd)			<0.0005%	≤0.0005%	≤0.0005%
Cobalt(Co)			<0.0005%	≤0.0005%	≤0.0005%
Chromium(Cr)			<0.0005%	≤0.0005%	≤0.0005%
Copper(Cu)			<0.0005%	≤0.0005%	≤0.0005%
Iron(Fe)		≤0.0005%	<0.0005%	≤0.0005%	≤0.0005%
Potassium(K)			<0.005%	≤0.0050%	≤0.0050%
Lithium(Li)			<0.0005%	≤0.0005%	≤0.0005%
Magnesium(Mg)			<0.0005%	≤0.0005%	≤0.0005%
Manganese(Mn)			<0.0005%	≤0.0005%	≤0.0005%
Molybdenum(Mo)			<0.0005%	≤0.0005%	≤0.0005%
Nickel(Ni)			<0.0005%	≤0.0005%	≤0.0005%
Lead(Pb)	≤0.0005%	≤0.0005%	<0.0005%	≤0.0005%	≤0.0005%
Strontium(Sr)			<0.0005%	≤0.0005%	≤0.0005%
Zinc(Zn)			<0.0005%	≤0.0005%	≤0.0005%

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