



MP Biomedicals, LLC

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Certificate of Analysis

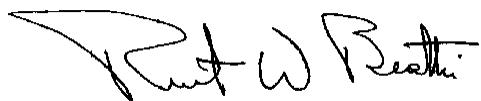
Product Description: L-Serine_
Catalog Number: 102873_
Lot: 4596K_

Formula: C₃H₇NO₃
CAS #: 56-45-1
Physical Description: White Powder

Formula Weight: 105.09
Storage: Room Temperature

Test	Specification	Result
Identity Test	Passes	Passes
Purity	≥99%	99.7%
FTIR	Conforms to Standard	Conforms to Standard
Specific Rotation (c = 10, 2N HCl)	+10° to +20°	+15.6 deg
Loss on Drying	≤0.5%	0.04%
Heavy Metals (as Pb)	≤20 ppm	<10 ppm

Chloride: <0.02%
Chromatographic Impurity: <0.05% for individual;
<2% for total impurities
Other Amino Acids: Chromatographically undetectable:
Residual Solvents: Pass
Residue on Ignition: 0.05%
Sulfate: <0.03%
Transmittance: 99.3%
Iron: <10 ppm
E.Coli: Negative
Salmonella: Negative
Total Plate Count: <3,000 cfu/g
Yeast & Mold: <100 cfu/g



08/19/2009 - Robert Beattie

MP Biomedicals, LLC.

Technical Director

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<http://www.mpbio.com>

Online Ordering, MSDSs, certificates of analysis and data sheets now available on our web site

Technical Service: 1-800-279-5490 (440-337-1200) Customer Service: 1-800-854-0530 (440-337-1200)