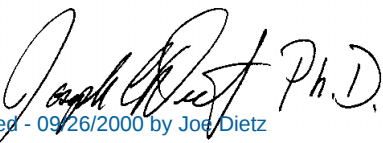


**MP Biomedicals, LLC**29525 Fountain Parkway
Solon, Ohio 44139Telephone: 440/337-1200
Toll Free: 800/854-0530Fax: 440/337-1180
web: www.mpbio.com

Certificate of Analysis

Product Description: L-(+)-Lactic Acid, free acid_
Catalog Number: 190228_
Lot: 1257E_**Formula:** C₃H₆O₃**CAS #:** 79-33-4**Physical Description:** White Crystalline Powder**Formula Weight:** 90.08**Storage:** -0°C, desiccate

Test	Specification	Result
Identity Test	Passes	Passes
Purity	≥ 99.0%	100%
Optical Rotation (c=2.5 H ₂ O)	+ 2.6° ± 2°	Passes
FTIR	Conforms to Standard	Conforms to Standard
Melting Point	48 - 58°C	48.2-52.0°C
Moisture	≤ 1%	0.2%
Pyruvate Content	≤ 0.005%	0.004%


Approved - 09/26/2000 by Joe Dietz
MP Biomedicals, LLC.
Technical DirectorThis is an electronically generated document
<mailto:biotech@mpbio.com>
<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)