

**MP Biomedicals, LLC**

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Certificate of Analysis

Product Description: L-GLUTAMIC ACID, free acid

Catalog Number: 101793

Lot: 2000C

Formula: C₅H₉NO₄

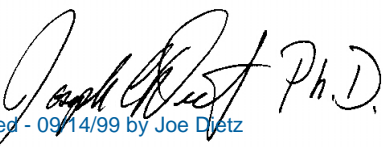
CAS #: 56-86-0

Physical Description: white crystalline powder

Formula Weight: 147.13

Storage: Room Temperature

Test	Specification	Result
Identity test	Passes	Passes
Purity	≥ 99%	99%
Melting Point	190 - 205°C	202 - 205°C
FTIR	Conforms to standard	Conforms to Standard
Moisture	Not more than 0.15%	Not more than 0.1%
Optical Rotation (C=10, 2N HCl)	30° +/- 5°	Passes
Solubility (10% in 2N HCl)	Clear, colorless solution	Passes
Arsenic	Not more than 1.5 ppm	Passes
Heavy Metals (as Pb)	Not more than 20 ppm	Not more than 10 ppm


Approved - 09/14/99 by Joe Dietz
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)