



Certificate of Analysis

L-Phenylalanine USP/FCC

Catalog Number: PL1003
Lot Number: 1127702
CAS Number: 63-91-2
Synonym(s): (S)-2-Amino-3-phenylpropionic acid
Molecular Formula: C₉H₁₁NO₂
Molecular Weight: 165.19
Storage: 15°C – 30°C
Date of Manufacture: November 21, 2016
Retest Date: November 20, 2019

Test	Specification	Result
Appearance	White to off-white powder	Conforms
Assay ^{1,2}	98.50 – 101.50%	99.6%
Identification ^{1,2}	Conforms	Conforms
Specific Rotation ^{1,2}	-34.70 to -32.70°	-33.10°
Mesh Size	Report	ND
Bulk Density	0.40 – 0.70g/mL	ND
Tap Density	0.50 – 0.90g/mL	ND
pH ¹	5.4 – 6.0	5.70
Related Compounds ¹		
Individual	≤ 0.5%	< 0.5%
Total	≤ 2.0%	< 2.0%
Moisture (LOD) ^{1,2}	≤ 0.20%	0.12%
Residue on Ignition ^{1,2}	≤ 0.10%	0.04%
Chloride ¹	≤ 0.05%	< 0.02%
Sulfate ¹	≤ 0.03%	< 0.03%
Heavy Metals ¹	≤ 15ppm	< 15ppm
Arsenic	≤ 1ppm	< 1ppm
Cadmium	≤ 1ppm	< 1ppm
Iron	≤ 30ppm	< 30ppm
Lead ²	≤ 5mg/kg	< 5mg/kg
Mercury	≤ 0.1ppm	< 0.1ppm
Total Plate Count	≤ 1,000cfu/g	< 1,000cfu/g
Yeast & Mold	≤ 100cfu/g	< 100cfu/g
Coliforms	Negative	Negative
<i>E. coli</i>	Negative	Negative
<i>S. aureus</i>	Negative	Negative
<i>Salmonella</i>	Negative	Negative

For research purposes only. Not for drug or clinical use in humans or human food additive use.



Gojira Fine Chemicals, LLC

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Approved by:

Date: November 28, 2017

A handwritten signature in blue ink that reads "John Grubb". The signature is written in a cursive, flowing style.

John Grubb, PhD
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