



Certificate of Analysis

L-Tyrosine USP

Catalog Number: TS1002
Lot Number: 1013702
CAS Number: 60-18-4
Synonym(s): (S)-2-Amino-3-(4-hydroxyphenyl)propionic acid, 3-(4-Hydroxyphenyl)-L-alanine
Molecular Formula: C₉H₁₁NO₃
Molecular Weight: 181.19
Storage: 15°C – 30°C
Date of Manufacture: June 5, 2017
Retest Date: June 4, 2019

Test	Specification	Result
Appearance	White powder	Conforms
Purity (Titration) ¹	98.5 – 101.5%	99.87%
Identification (FTIR) ¹	To match reference spectra	Conforms
Specific Rotation ¹	-11.2° to -9.8°	-10.49°
Moisture (LOD) ¹	≤ 0.3%	0.14%
Residue on Ignition ¹	≤ 0.4%	0.02%
Chloride ¹	≤ 0.04%	< 0.04%
Sulfate ¹	≤ 0.04%	< 0.04%
Heavy Metals ¹	≤ 15ppm	< 15ppm
Arsenic	≤ 1ppm	< 1ppm
Cadmium	≤ 1ppm	< 1ppm
Iron ¹	≤ 30ppm	< 30ppm
Lead	≤ 1ppm	< 1ppm
Mercury	≤ 0.1ppm	< 0.1ppm
Related Compounds ¹		
Individual Impurities	≤ 0.5%	< 0.5%
Total Impurities	≤ 2.0%	< 2.0%
Total Plate Count	≤ 1,000cfu/g	< 1,000cfu/g
Yeast & Mold	≤ 100cfu/g	< 100cfu/g
Coliform	Negative/g	Negative
<i>E. coli</i>	Negative	Negative
<i>Salmonella</i>	Negative	Negative
<i>S. aureus</i>	Negative	Negative
Particle Size	≥ 98% thru 100mesh	ND
Bulk Density	≥ 0.2mg/mL min	ND
Tap Density	≥ 0.3mg/mL min	ND

¹ This lot meets the USP39 specifications.

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: October 13, 2017

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

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