



## Certificate of Analysis

### L-Alanine USP

**Catalog Number:** AL1002  
**Lot Number:** 0321804  
**CAS Number:** 56-41-7  
**Molecular Formula:**  $C_3H_7NO_2$   
**Molecular Weight:** 89.09  
**Storage:** 15°C – 30°C  
**Date of Manufacture:** March 30, 2017  
**Retest Date:** March 29, 2019

Test	Specification	Result
Appearance	White crystals	Conforms
Assay (on dried basis)	99.0 % to 101.0%	99.32%
Identification	Positive	Conforms
Specific rotation	+14.30 to +15.20°	14.63°
Moisture (LOD)	≤ 0.2%	0.08%
pH	5.7 – 6.7	6.2
Chromatographic impurity	Total ≤ 2.0% Individual ≤ 0.5%	< 2.0% < 0.5%
Residue on ignition	≤ 0.15%	0.02%
Chloride	≤ 0.05%	< 0.02%
Sulfate	≤ 0.03%	< 0.02%
Heavy Metals	≤ 15ppm	< 10.0ppm
Arsenic	≤ 5.0ppm	< 1.0ppm
Cadmium	≤ 0.3ppm	< 0.3ppm
Iron	≤ 30ppm	< 10.0ppm
Lead	≤ 5.0ppm	< 5.0ppm
Mercury	≤ 0.2ppm	< 0.2ppm
Total Plate Count	≤ 1,000cfu/g	< 10cfu/g
Yeast & Mold	≤ 100cfu/g	< 10cfu/g
Coliforms	Negative	Negative
<i>E. Coli</i>	Negative	Negative
<i>Salmonella</i>	Negative	Negative
<i>Staphylococcus Aureus</i>	Negative	Negative
Mesh size	≥ 95% thru 20mesh	Conforms
Bulk Density	0.6 – 0.8g/mL	Conforms

Approved by:

John Grubb, PhD  
Gojira Fine Chemicals, LLC

Date: March 22, 2018



# Gojira Fine Chemicals, LLC

**Quality Products & Services Meeting Customer Needs**  
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