

# CERTIFICATE OF ANALYSIS

Product Description L-GLUTAMINE  
Product Number G229  
Lot Number HCW0229023  
Storage Temperature Room Temperature  
Molecular Weight 146.14  
Formula  $C_5H_{10}N_2O_3$   
CAS Number 56-85-9

## Physiochemical Specifications:

TEST	SPECIFICATION	RESULTS
Solubility	Soluble in Water @ 10 mg/mL	Passes
pH	Under Development	3.2
Physical Appearance Color* Texture	PM-1 to PM-4 Fine to Coarse Powder, may form clumps	PM-1 White Fine Powder
Solution Appearance Clarity Color	Clear Colorless	Clear Colorless
Average Time to Dissolve	For Information Only (Approx. 3 min)	Passes
Insolubles	None to Few	Passes- None
FTIR	Conforms to Structure	Passes
Purity	Minimum 98.5%	99.60%

\* Product color based upon comparisons between sample and standardized color wheel (Benjamin Moore® Color Preview™).

## Biological Testing:

Test Concentration: 100.0 mg/L

TEST SPECIFICATION	PLANT CELL LINE	RESULTS
Supports and/or facilitates plant growth and/or shoot proliferation in two or more plant tissue cultured lines with no morphological aberrations to plants	Xanthi Tobacco Callus	Passes
	Perilla Fantasy	Passes

The material described in this certificate is synthetic. No animal- or plant-derived components were used in the manufacture of this product.

**PhytoTech Labs Inc. provides the above information intended to be used only as a guide to the appropriate handling of this material by a properly trained person. PhytoTech Labs Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. This product is intended for LABORATORY USE ONLY. Our products may NOT BE USED as drugs, cosmetics, agricultural or pesticidal products, food additives or as household chemicals.**

Date of Release: 22-March-2023

Recommended Shelf Life Date: March 2031



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