CERTIFICATE OF ANALYSIS

Product Description	L-GLUTAMINE, FCC GRADE
Product Number	G229
Lot Number	11C0229020
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	3.65
Physical Appearance Color* Texture	 RM-1 to RM-3, or RM-31 Fine to Coarse Powder, may form clumps	 RM-31 White Fine Powder
Solution Appearance Clarity Color	 Clear Colorless	 Clear Colorless
Average Time to Dissolve	Within 3 min	Passes
Insolubles	None to Few, Small	Passes - None
Purity	Minimum 98.5%	98.8%
Moisture (LOD)	For Information Only	0.09%

* 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	African Violet	Passes
	Boston Fern	Passes

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

***Phyto*Technology Laboratories® provides the above information intended to be used only as a guide to the appropriate handling of this material by a properly trained person. *Phyto*Technology Laboratories® 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.**

Recommended Shelf Life Date: April 2019

Gary Seckinger, Ph.D.

P*hyto*Technology Laboratories®
Dedicated to Growth

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Created on 2 May 2011 PN