CERTIFICATE OF ANALYSIS

Product Description	L-ARGININE, FREE BASE (S)-2-AMINO-5-[(AMINOIMINOMETHYL)AMINO]PENTANOIC ACID
Product Number	A143
Lot Number	15F0143005
Storage Temperature	Room Temperature
Molecular Weight	174.20
Formula	$C_6H_{14}N_4O_2$
CAS Number	74-79-3

Physiochemical Specifications:

TEST	SPECIFICATION	RESULTS
Solubility	Soluble in Water @ 10 mg/mL	Passes
pH	Under Development	10.2
Physical Appearance Color* Texture	PM-1 to PM-4 Fine or Granular Powder or Crystals	PM-4 White Fine Powder
Solution Appearance Clarity Color	 Clear Colorless	 Clear Colorless
Average Time to Dissolve	For Information Only (Approx. 3 mins)	3 mins
Insolubles	None	Passes
FTIR	Conforms to Structure	Passes
Purity	Minimum 98.0%	99.74%
Heavy Metals (as Pb)	For Information Only	<10 ppm

* 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	Hosta	Passes
	Tobacco Callus	Passes

The material described in this certificate was manufactured from fermentation of Glucose and is not animal derived.

***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: June 2023

Gary Seckinger, Ph.D.

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Created on 6 July 2015 JN