CERTIFICATE OF ANALYSIS

Product Description	MES, MONOHYDRATE 2-(N-MORPHOLINO)ETHANESULFONIC ACID
Product Number	M825
Lot Number	15H0825088
Storage Temperature	Room Temperature
Molecular Weight	213.3
Formula	$C_6H_{13}NO_4S \cdot H_2O$
CAS Number	145224-94-8

Physiochemical Specifications:

TEST	SPECIFICATION	RESULTS
Solubility	Soluble in Water @ 100 mg/mL	Passes
pH	Under Development	3.1
Physical Appearance Color* Texture	 PM-1 to PM-4 Fine to Crystalline Powder that may have larger clumps	 PM-4 White Crystalline Powder
Solution Appearance Clarity Color	 Clear Colorless	 Clear Colorless
Average Time to Dissolve	Within 5 min	Passes
Insolubles	None	Passes
FTIR	Conforms to Structure	Passes
Purity	Minimum 98.0%	99.9%
Loss on Drying	For Information Only	8.5%

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

Biological Testing:

Test Concentration: 1.0 g/L

TEST SPECIFICATION	PLANT CELL LINE	RESULTS
This product is commonly used as a buffering agent. It is tested with two or more plant cell lines to ensure there are no phytotoxic impurities that would inhibit growth or produce morphological aberrations to the plants.	Achimenes	Passes
	Cape Primrose	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: August 2023

Gary Seckinger, Ph.D.

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