

# CERTIFICATE OF ANALYSIS

Product Description MANGANESE SULFATE, MONOHYDRATE  
Product Number M250  
Lot Number 08E25005  
Storage Temperature Room Temperature  
Molecular Weight 169.02  
Formula  $MnSO_4 \cdot H_2O$   
CAS Number 10034-96-5

## Physiochemical Specifications:

TEST	SPECIFICATION	RESULTS
Solubility	Soluble in Water	Passes
pH (0.016 g/L)	Under Development	5.64
Physical Appearance Color* Texture	2092-70 to 2105-70, RM-1 Fine Powder, may have clumps	RM-1 White w/ a pink tint Fine Powder
Solution Appearance Clarity Color	Clear Colorless	Clear Colorless
Average Time to Dissolve	Within 1 min	Passes
Insolubles	None	Passes
Purity	Minimum 98%	99.2%

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

## Biological Testing:

Test Concentration: 16.0 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	Syngonium	Passes
	Tobacco Callus	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, LLC* 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: May 2013



Gary Seckinger, Ph.D.



PhytoTechnology  
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Dedicated to Growth

### PhytoTechnology Laboratories, LLC

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