

CERTIFICATE OF ANALYSIS

Product Description MANGANESE SULFATE, MONOHYDRATE
Product Number M250
Lot Number HET0250025
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 @ 10 mg/mL | Passes |
| pH | Under Development | 4.2 |
| Physical Appearance | | |
| Color* | 2092-70 to 2105-70 | 2105-70 Light Pink |
| Texture | Fine Powder, may form clumps | Fine Powder |
| Solution Appearance | | |
| Clarity | Clear | Clear |
| Color | Colorless | Colorless |
| Insolubles | None | Passes |
| FTIR | Conforms to Structure | Passes |
| Purity | Minimum 99% | 100.20% |
| Atomic Absorption | Under Development | 0.245 AU |

* 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 | Xanthi Tobacco Callus | Passes |
| | Parrot Feather | 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: 20-October-2025

Recommended Shelf-Life Date: October 2033

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