

# CERTIFICATE OF ANALYSIS

Product Description 2, 4-Dichlorophenoxyacetic Acid; 2, 4-D  
Product Number D299  
Lot Number 05M29916  
Storage Temperature Room Temperature  
Molecular Weight 221.04  
Formula  $C_8H_6Cl_2O_3$   
CAS Number 94-75-7

## Physiochemical Specifications:

TEST	SPECIFICATION	RESULTS
Solubility	Soluble in KOH	Soluble in KOH
pH <sup>1</sup> (0.005 g/5 mL KOH)	13.0-14.0	13.51
Physical Appearance Color*	2153-70 (Ivory Tusk) 2151-70 to 2156-70, RM-1 to RM-3, or RM-31	RM-1 (Super White)
Texture	Fine to Granular Powder	Fine, Granular Powder
Solution Appearance Clarity Color	Clear Colorless	Clear Colorless
Average Time to Dissolve	Within 10 min	Within 9 min
Precipitation Formation	None	None
Melting Point	136-140° C	140° C

<sup>1</sup> pH is dependent on the type and amount of solvent used.

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

## Biological Testing:

TEST SPECIFICATION	PLANT CELL LINE	RESULTS
Supports and/or facilitates plant growth and/or callus formation in two or more plant tissue cultures	Venus Flytrap	Passes—supported minimal plant growth and callus formation with no morphological aberrations to plants
	Hosta	Passes—supported moderate plant growth and callus formation with no morphological aberrations to plants

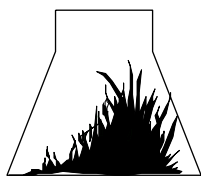
The material described in this certificate was manufactured in the United States of America and is of synthetic nature. No animal or plant components were used in the manufacture of this product.

**PhytoTechnology 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. PhytoTechnology 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: December 2010

Emily Burdick

Quality Assurance Manager



PhytoTechnology  
Laboratories, LLC  
Dedicated to Growth

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Created on 1/6/2006 9:11:00 AM