CERTIFICATE OF ANALYSIS

Product Description	CYANOCOBALAMIN
Product Number	C242
Lot Number	SVS0242006
Storage Temperature	2-8°C
Molecular Weight	1355.37 g/mol
Formula	$C_{63}H_{88}CoN_{14}O_{14}P$
CAS Number	68-19-9

Physiochemical Specifications:

TEST	SPECIFICATION	RESULTS
Solubility	Soluble in Water @ 10 mg/mL	Passes
pH	Under Development	6.4
Physical Appearance		
Color*	2083-10 to 2083-30, HC-64,	
	HC-61, PM-15, or PM-17	HC-61 Dark Red
Texture	Crystalline Powder	Crystalline Powder
Solution Appearance		
Clarity	Clear	Clear
Color	Dark Pink to Deep Red	Deep Red
	For Information Only	
Average Time to Dissolve	(Approx. 6 min)	6 min
Insolubles	None	Passes
FTIR	Conforms to Structure	Passes
Purity	Minimum 98%	98.50%
Loss on Drying	For Information Only	2.6%

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

Biological Testing:

Test Concentration: 10.0 mg/L

TEST SPECIFICATION	PLANT CELL LINE	RESULTS
Supports and/or facilitates plant growth and/or shoot proliferation in two or more	Tobacco Callus	Passes
plant tissue cultured lines with no morphological aberrations to plants	Perilla Fantasy	Passes

The material is derived from microbial fermentation and highly purified and considered semi-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.

Date of Release: 04-January-2023 Recommended Shelf Life Date: January 2026

David Hart Technical Director

> **PhytoTech Labs Inc.** 14610 W 106TH St. Lenexa, KS 66215 Phone: 1-888-749-8682 or 1-913-341-5343 phytotechlab.com