

Certificate of Analysis

Product:	<u>Cyanocobalamin</u>	Cert. No.:	<u>01220601102</u>
Batch No.	<u>012206011</u>	Mfg. Date :	<u>Jun.06,2022</u>
Weight:	<u>20048g</u>	Cert. Date :	<u>Jun.13,2022</u>
Retest Date:	<u>Jun.05,2027</u>		

Test item	Specifications	Results
Characters	Dark red crystals or crystalline red powder	Complies
Solubility	Sparingly soluble in water and in ethanol(96 percent),practically insoluble in acetone	Complies
Identification A (UV)	Absorption maxima at278±1nm, 361±1nm and 550±2nm	Complies
	A361/A278 nm 1.70-1.90	1.87
	A361/A550 nm 3.15-3.40	3.25
Identification B (Chemistry)	Positive	Complies
Identification C (HPLC)	The retention time of the major peak of the sample solution corresponds to that of the standard solution	Complies
Loss on drying	≤12.0%	4.4%
Assay(on dry basis) (UV)	96.0~102.0%	99.1%
Related substances (HPLC)		
Total impurities	≤3.0%	0.9%
7β,8β-Lactocyanocobalamin	≤1.0%	0.08%
50-Carboxycyanocobalamin	≤0.5%	Not Detected
34-Methylcyanocobalamin	≤2.0%	0.2%
32-Carboxycyanocobalamin	≤1.0%	Not Detected
8-Epi-Cyanocobalamin	≤1.0%	0.08%
Any other unidentified impurity	≤0.5%	0.17%
Residual solvent (GC)		
Acetone	≤0.5%	0.001%
Total plate count (Plate culture)	<1000cfu/g	<10cfu/g
Yeasts & Moulds	<100cfu/g	<10cfu/g
E.coli	Negative	Negative
Salmonella	Negative	Negative
Staphylococcus aureus	Negative	Negative
Pseudomonas aeruginosa	Negative	Negative
Bacterial endotoxins	<0.35EU/mg	Complies

Conclusion: This product complies with the specifications of USP 2022.*