

Certificate of Analysis

Product	Vitamin B-12 (Methylcobalamin)	CAS No. :	13422-55-4
Product No. :	VB12-MC	Molecular Formula	C ₆₃ H ₈₈ CoN ₁₄ O ₁₄ P
Sequence	Not Applicable (Non-Peptide)		
Batch No.	VB12MC-260601	Quantity	2.0kg
Mfg. Date	May 26th, 2026	Retest Date	May 25th, 2028

【 ITEMS 】	【 SPECIFICATIONS 】	【 RESULTS 】
Appearance	Red to dark red crystalline powder	Dark red crystalline powder
Solubility	Freely soluble in water	Conforms
Solution clarity and color	Clear and red	Conforms
Identification (UV-Vis)	The absorption maxima at 361nm and 550nm correspond to standard	Conforms
Identification (HPLC)	The retention time of the principal peak of the test solution corresponds to that of the reference solution, as obtained in the Assay.	Conforms
Assay (HPLC)	NLT 98.0% (on dry basis)	98.6%
Specific optical rotation $[\alpha]_D^{20}$	+6.0° ~ +12.0° (c=1, in water)	+8.3°
pH (1% aqueous solution)	4.5 ~ 7.0	5.8
Water content (Karl Fischer)	NMT 5.0%	2.7%
Cyanide (CN)	NMT 10ppm	<10ppm
Heavy metals (as Pb)	NMT 10ppm	<10ppm
Arsenic (As)	NMT 2ppm	<2ppm
Lead (Pb)	NMT 2ppm	<2ppm
Cadmium (Cd)	NMT 1ppm	<1ppm
Mercury (Hg)	NMT 1ppm	<1ppm
Microbial Limits	TAMC NMT 1000 cfu/g TYMC NMT 100 cfu/g E. Coli : Absent Salmonella : Absent	<100 cfu/g <10 cfu/g Absent Absent
Residual solvents	Complies with ICH Q3C	Conforms
Particle size	NMT 100 mesh (≤150 μm)	Conforms
Storage	Store in a cool, dry place, protected from light. Do not freeze.	Conforms



Residual solvent	Methanol NMT 3000ppm Ethanol NMT 5000ppm Acetone NMT 5000ppm Isopropanol NMT 5000ppm Hexane NMT 290ppm	N.D N.D N.D N.D N.D
Peptide content	Not Applicable	N/A
Bacterial endotoxins	NMT 10EU/mg	<3EU/mg
Stability	Stable under recommended storage conditions	Conforms
Report	Li peng	Date 2026.06.03
Reviewer	Fang Hui Liao	Date 2026.06.03



Conclusion: This batch of product complies with Enterprise Standard.

It is only supplied as chemical product.
It is only for R&D use.

Testing Organization:
Shanghai High Purity Peptide Biotechnology Co., Ltd.
上海高纯肽生物科技有限公司