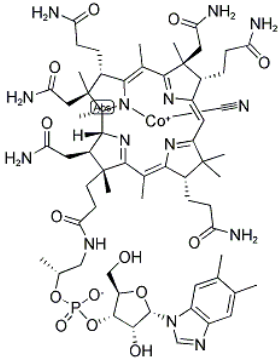


CERTIFICATE OF ANALYSIS

Product Name:	Cyanocobalamin (Vitamin B12)	Structure: 
Batch No:	20170407	
CAS No:	68-19-9	
Manu. Date:	APR.07, 2017	
Report Date:	APR.07, 2017	
Expire Date	APR.06, 2022	

Item	Specification	Analysis Results	Test methods
Appearance	Dark red crystalline powder or dark red crystals	Comply	Monograph: 0547 Visual method
Identification A	UV: A361nm/A278nm: 1.70-1.90 A361nm/A547- 559nm: 3.15-3.45	1.85 3.27	Ph.Eur.Monograph / Ph.Eur.<2.2.25>
Identification B	TLC: Meets Ph.Eur. Monograph requirements	Comply	Ph.Eur.Monograph / Ph.Eur.<2.2.27>
Assay	97.0-102.0%	98.7%	Ph.Eur.Monograph
Related Substances	Total impurities≤3.0%	0.9%	Ph.Eur.Monograph /Ph.Eur.<2.2.29> (HPLC)
Residual solvent	Acetone≤5000ppm	21ppm	In house (GC)
Total plate count	≤1000cfu/g	<10cfu/g	Ph.Eur.<2.6.12>
Yeast and molds	≤100cfu/g	<10cfu/g	Ph.Eur.<2.6.12>
Loss on drying	≤10%	2.7%	Ph.Eur.Monograph / Ph.Eur.<2.2.32>

Storage & Conclusion

Storage	Store in a well-closed place with room temperature and no direct sun light.
Conclusion	Qualified with the specification based on Ph.Eur.9.0 and in house standard

