

## SPECIFICATION

**Product name** Cyanocobalamin (Vitamin B12)  
**Product code** SPQB01  
**Production site** Heilongjiang NHU Biotechnology  
**Trade name** Vitamin B12 (Cyanocobalamin)

### Description

**Ingredients** *Coa-[ $\alpha$ -(5,6-Dimethylbenzimidazolyl)], Co $\beta$ -cyanocobalamide*

**Synonym** Cyanocobalamin, Vitamin B 12

**Formula** C<sub>63</sub>H<sub>88</sub>CoN<sub>14</sub>O<sub>14</sub>P

**CAS-No.** 68-19-9

### Properties

**Shelf life** 60 months in unopened original packaging

**Aspect** Dark red, crystalline powder or dark red crystals

**Assay (GC)** 96 – 100,5 % (FCC)

**Loss on drying** < 12 %

**Solubility** sparingly soluble in water, soluble in alcohol, insoluble in acetone, chloroform and ether (FCC)

**Identification** UV Have maximum absorption at 278 ± 1 nm, 361 ± 1 nm and 550 ± 1 nm

A 361 nm/A 278 nm: 1.70 to 1.90

A 361 nm/A 550 nm: 3.15 to 3.40

HPLC The principal peak in the chromatogram obtained with the test solution is similar in retention time and size to the principal peak in the chromatogram obtained with reference solution.

### Heavy metals (USP)

**Arsenic (As)** ≤ 1,0 mg/kg

**Lead (Pb)** ≤ 0,5 mg/kg

**Mercury (Hg)** ≤ 0,1 mg/kg

**Cadmium (Cd)** ≤ 0,5 mg/kg

### Microbiological specs

**Total plate count** ≤ 1000 CFU/g

**Mould and Yeast** ≤ 100 CFU/g

**E. coli** negative in 10 g

**Salmonella** negative in 25 g

**Staph. aureus** negative in 25 g

Residual solvents (Acetone) ≤ 5000 mg/kg

#### Impurities (EP)

A: 7β,8β-Lactocyanocobalamin: ≤ 0.7%  
B: 50-Carboxycyanocobalamin: ≤ 0.5%  
C: 34-Methylcyanocobalamin: ≤ 1.5%  
D: 32-Carboxycyanocobalamin: ≤ 0.5%  
E: 8-epi-Cyanocobalamin: ≤ 0.5%  
F: unknown structure  
(Cyanocobalamin isomer) ≤ 0,5 %  
Any other unidentified impurity ≤ 0,2 %  
Total impurities ≤ 3 %

#### Handling

Usage for food industry

product can also be used as feed additive  
dosage in feed: as per latest version of European  
feedstuff law

Storage store in tight, light-resistant containers, room  
temperature

Transport instructions please see our latest MSDS.

The product is compliant to EP and FCC in the current version.

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