

SPECIFICATION

Product Name: Vitamin B12 (Cyanocobalamin) IP Grade
Chemical Formula: $C_{63}H_{88}CoN_{14}O_{14}P$
CAS Number: 68-19-9
Molecular Weight: 1355.37 g/mol
Appearance: A dark red crystalline powder.
Odor: Odorless.

Chemical Composition

Parameter	Unit	Typical Value	Specification (Min/Max)
Identification (A) (UV)	-	Complies	Absorption maxima at 278nm, 361nm and from 547nm to 559 nm
Identification (B) (TLC)	-	Complies	Conforms to standard
Identification C (Chemistry)	-	Complies	Positive
Ratio absorbances	-	1.86 3.26	A361/A278 nm 1.70-1.90 A361/A550 nm 3.15-3.45
Loss on drying	%	2.8%	≤12.0%
Assay (on dry basis) (UV)	%	99.1%	96.0~102.0%
Related substances (HPLC)			
Total Impurities	%	1.2%	≤3.0%
7β,8β-Lactocyanocobalamin	%	0.1%	≤1.0%
50-Carboxycyanocobalamin	%	Not Detected	≤0.5%
Carboxycyanocobalamin	%	Not Detected	≤2.0%
Methylcyanocobalamin	%	0.4%	≤1.0%
8-Epi-Cyanocobalamin	%	0.1%	≤1.0%
Any other unidentified impurity	%	0.2%	≤0.5 %
Residual solvent (GC)			

Acetone	%	0.003%	≤0.5%
Total plate count (Plate culture)	cfu/g	60cfu/g	≤1000cfu/g
Yeasts & Moulds	cfu/g	<10cfu/g	≤100cfu/g
E. coli	-	Negative	Negative

Physical Properties

- Solubility: Freely soluble in water. Sparingly soluble in ethanol. Slightly soluble in methanol. Practically insoluble in chloroform. Practically insoluble in ether. Practically insoluble in acetone.

Shelf Life & Storage

- Shelf Life: 5 years from date of manufacture under recommended storage.
- Storage Conditions: Store in a tightly closed, light-resistant container in a cool, dry, and well-ventilated place, protected from moisture, heat, and direct sunlight. Cyanocobalamin is sensitive to light and may degrade upon prolonged exposure to UV radiation.

Applications

- Use: Widely used as a nutritional supplement and vitamin fortification ingredient in pharmaceutical, nutraceutical, food, and beverage products. It plays a vital role in red blood cell formation, DNA synthesis, energy metabolism, and normal nervous system function.
- Dosage: Depends on the intended application, age group, and nutritional requirements.

Packaging

- Standard Packing: 1 kg pack, 100 gram and 10 gram or as per customer requirement.

- Labeling: Product name, batch number, net weight, manufacture date, expiry date, and manufacturer details.

* Specifications are based on the manufacturer's provided specifications.