

## SPECIFICATION

|                                                                                              |
|----------------------------------------------------------------------------------------------|
| <b>Product Name:</b> Vitamin B12(Methyl Cobalamin) IP Grade                                  |
| <b>Chemical Formula:</b> C <sub>63</sub> H <sub>91</sub> CoN <sub>13</sub> O <sub>14</sub> P |
| <b>CAS Number:</b> 13422-55-4                                                                |
| <b>Molecular Weight:</b> 1344.38 g/mol                                                       |
| <b>Appearance:</b> A dark red crystalline powder                                             |
| <b>Odor:</b> Odorless                                                                        |

### Chemical Composition

| Parameter                                         | Unit | Typical Value | Specification (Min./Max.)                                                                                                                                             |
|---------------------------------------------------|------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Identification                                    |      |               |                                                                                                                                                                       |
| A. By UV                                          | -    | Complies      | Spectrum of a solution of methyl cobalamin sample exhibits similar intensities of absorption as that of reference standard at the same wavelengths (230 nm to 360nm). |
| B. By color reaction                              | -    | Complies      | A light red to orange red colour is immediately produced, adding the hydrochloric acid the red colour does not disappear.                                             |
| Appearance of solution 0.2% w/v solution in water | -    | Complies      | This solution is clear and having red color.                                                                                                                          |
| Related substances (By HPLC)                      |      |               |                                                                                                                                                                       |
| 1. Any unspecified impurity                       | %    | 0.20%         | NMT 0.5%                                                                                                                                                              |
| 2. Total impurities                               | %    | 0.98%         | NMT 2.0%                                                                                                                                                              |
| Water content                                     | %    | 9.14%         | NMT 12.0%                                                                                                                                                             |
| Assay by HPLC (on anhydrous basis)                | %    | 99.02%        | NLT 98.0% and NMT 102.0%                                                                                                                                              |

### **Physical Properties**

- Solubility: Soluble in water. Insoluble in ethanol. Insoluble in acetone. Soluble in methanol. Insoluble in ether. Insoluble in chloroform.

### **Shelf Life & Storage**

- Shelf Life: 5 years from date of manufacture under recommended storage.  
- Storage Conditions: Store in a tightly closed, light-resistant, moisture-resistant container in a cool, dry, and well-ventilated place, protected from light, moisture, excessive heat, and contamination.

### **Applications**

- Use: Widely used in pharmaceutical, nutraceutical, and food supplement formulations. It is valued for its role in nerve function, red blood cell formation, DNA synthesis, and normal energy metabolism.  
- Dosage: Depends on Intended nutritional or therapeutic purpose, Target population, Product formulation, Stability during processing, Applicable regulatory requirements.

### **Packaging**

- Standard Packing: 1 Kgs 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.