



## CERTIFICATE OF ANALYSIS

20 Martin Ross Avenue, North York, ON, M3J 2K8, CANADA  
Tel: (416) 665-9696, Fax: (416) 665-4439  
Email: orders.trc@lscgroup.com Website: www.trc-canada.com

### 1. Identification

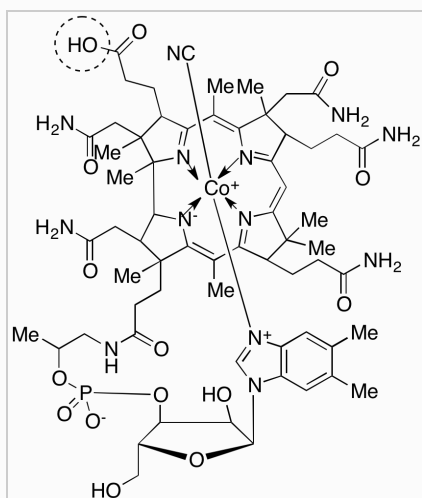
**Catalogue Number:** C953620

**CAS Number:** 38218-77-8

**Product:** Cyanocobalamin-b-carboxylic Acid

**Synonym:** 3'-Ester with 5,6-dimethyl-1- $\alpha$ -D-ribofuranosylbenzimidazole Cobinic acid-acdeg-pentamide Cyanide Phosphate Inner Salt; 3'-Ester with 5,6-dimethyl-1- $\alpha$ -D-ribofuranosyl-1H-benzimidazole Cobinic Acid-acdeg-pentamide Cyanide, Dihydrogen Phosphate (Ester) Inner Salt; CBC 195; 32-Carboxycyanocobalamin;

**Structure:**



**Molecular Formula:**

$C_{63}H_{87}CoN_{13}O_{15}P$

**Molecular weight:**

1356.35

**Source of Product:**

Synthetic

**Solubility:**

Methanol (Slightly), Water (Slightly)

**Lot Number:** 22-MNZ-53-1

**Purity:** 98%

**Shipping Condition:** This Product Is Stable To Be Shipped At Room Temperature

**Storage Condition:** -20°C

### 2. Warning

**Warning 1:**

**Warning 2:**

**Warning 3:**

### 3. Analytical Information

Tests:	Specifications:	Results:
Appearance	Red to Very Dark Red Solid	Dark Red to Very Dark Red Solid
NMR	Conforms to Structure	Conforms
P NMR	Conforms to Structure	Conforms
Elemental Analysis	Conforms	%C: 51.55, %H: 6.80, %N: 13.18
MS	Conforms to Structure	Conforms
HPLC Purity	Report Result	98.05% (210 nm)

**Additional Information:** N/A

Purity is based on the analytical results of the tests performed. NMR and Elemental Analysis (if available) may have an accuracy of  $\pm 2\%$ . Isotopic purity is based on mass distribution observed. The contents of the specifications are subject to change without advance notice, and the specification values displayed here are the most up to date values.

### 4. Signatures

Reviewed By	Reviewed By	C of A Approved By	Test Date	Retest Date
swathi reddy	Toni Rantanen	Chanell Chu	10/31/2023	10/29/2027
				