

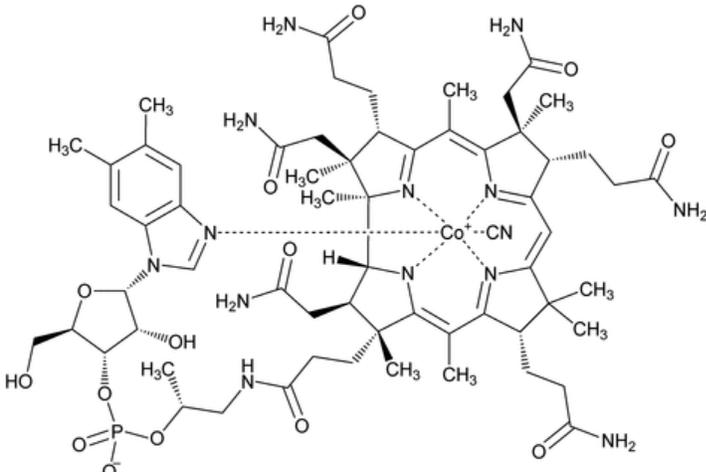
# Certificate

## CYANOCOBALAMIN (CRYSTALLINE)

(Vitamin B<sub>12</sub>)

USP Catalog No.: 1152011

USP Lot No.: F07440

	CAS No.: 68-19-9
	Molecular Formula: C <sub>63</sub> H <sub>88</sub> CoN <sub>14</sub> O <sub>14</sub> P
	Molecular Weight: 1355.37

**PLEASE NOTE: This reference standard is cyanocobalamin with no added substances and requires appropriate solution preparation and specific handling (detailed below).**

### NOTES ON STANDARD SOLUTION PREPARATION FOR CYANOCOBALAMIN (CRYSTALLINE):

It is recommended that the material be **protected from light** and **handled at a Relative Humidity (RH) not to exceed 60%**.

Cyanocobalamin in the crystalline form gains water rapidly upon initial exposure to atmospheric moisture. It gains about 5% to 8% of its weight within 10 minutes depending on the RH. After this, the rate of water adsorption decreases to where it stabilizes after about 60 minutes.

For this reason, it is recommended that the material be protected from humidity by handling it in a low-humidity glove box or low humidity room (10% RH or less) during the solution preparation. Determine the water content titrimetrically before use.

If it is not possible to handle the material at 10% RH or less as described above, it is recommended to transfer the entire contents of a vial to a suitable container and spread it into a thin layer. Equilibrate the material at atmospheric humidity (not more than 60% RH) for about 60 minutes at room temperature, protecting from light. This will allow the material to gain water to minimize weight changes during handling. Immediately after equilibration, determine the water content titrimetrically before use.

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Certificate Date: 31Mar2017

USP Template No. CERT1\_4-04

Effective 21Jan2016

**LABEL TEXT**

For use with specified USP compendial tests.  
Not for use as a drug. See SDS prior to use  
at [www.usp.org/sds](http://www.usp.org/sds).

**USP REFERENCE STANDARD**

**CYANOCOBALAMIN 2 x 150 mg**  
(Crystalline)

Do not dry. Determine the water content titrimetrically before use. For quantitative applications, use a value of 0.984 mg of cyanocobalamin per mg of material on the anhydrous basis. Material is very hygroscopic and picks up atmospheric moisture rapidly. See included certificate for further information. Discard any unused portion after use. Protect from light. Store in a refrigerator.

USP, 12601 Twinbrook Pkwy, Rockville, MD, +1-301-881-0666  
Cat. No. 1152011 Material mfd. in China

LOT: F07440



For use with specified USP compendial tests.  
Not for use as a drug. See SDS prior to use  
at [www.usp.org/sds](http://www.usp.org/sds).

**USP REFERENCE STANDARD**

**CYANOCOBALAMIN 150 mg**  
(Crystalline)

Do not dry. Determine the water content titrimetrically before use. For quantitative applications, use a value of 0.984 mg of cyanocobalamin per mg of material on the anhydrous basis. Material is very hygroscopic and picks up atmospheric moisture rapidly. See included certificate for further information. Discard any unused portion after use. Protect from light. Store in a refrigerator.

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Cat. No. 1152011 Material mfd. in China LOT: F07440

*Jeri L. Joth*

Quality Assurance

**Calculation Value**

If a value is not provided on the label or accompanying documentation and the Reference Standard has a quantitative USP compendial application, a value of 100.0% is used. The purity value is not applicable for qualitative uses. Please refer to the specific Reference Standard label for further information.

**Expiration**

Current lots are identified in the current USP Catalog. In some cases, the previous lot may still be considered valid for use. If so, it is identified in the column marked "Previous Lot/Valid Use Date."

It is the responsibility of each user to determine that this lot is current or valid when used. For the most up-to-date information, please refer to the USP Store at [www.usp.org](http://www.usp.org).

**Instructions for Use**

Follow the instructions on the label of the USP Reference Standard and in the appropriate USP documentary standard(s).

**Non-Monograph Use**

The suitability of this Reference Standard for use in non-compendial applications is solely the responsibility of the user.

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