

# SAFETY DATA SHEET

## Vitamin B12



Revision date: 2019-06-08  
Version 1.0

### 1. PRODUCT AND COMPANY IDENTIFICATION

#### Product Identifier

Product Name: Cyanocobalamin, USP Grade (Vitamin B12)

Synonyms: 1H-Benzimidazole, 5,6-dimethyl-1-(3-O-phosphono-alpha-d-ribofura; Anacobin; Vitamin B12

#### Other means of identification

CAS-No 68-19-9

#### Recommended use of the chemical and restrictions on use

Recommended Use: Pollution abatement and Vitamin B12 supplement for *Dhc*.

Restrictions on Use: Use as recommended by the label

#### Details of the supplier and of the safety data sheet

Supplier	Tersus Environmental, LLC 1116 Colonial Club Rd Wake Forest, NC 27587 Phone: +1-919-453-5577 Email: <a href="mailto:info@tersusenv.com">info@tersusenv.com</a>
Contact Person	David F. Alden Phone: +1-919-453-5577 x2002 Email: <a href="mailto:david.alden@tersusenv.com">david.alden@tersusenv.com</a>

#### Emergency telephone number

For leak, fire, spill or accident emergencies, call:

+1-919-453-5577 (Tersus Office Hours, 8:00 AM to 5:00 PM Eastern)  
+1-800-424-9300 (Chemtrec 24 Hour Service – Emergency Only)  
+1-703-527-3887 (Chemtrec Outside United States 24 Hour Service – Emergency Only)  
+1-919-638-7892 Gary M. Birk (Outside office hours)

### 2. HAZARD IDENTIFICATION

#### **GHS Classification**

Not a hazardous substance or mixture.

#### **GHS Label elements, including precautionary statements**

This product is not hazardous per the Globally Harmonized System of Classification and Labelling (GHS).

#### **Other hazards**

None known.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Formula  $C_{63}H_{88}CoN_{14}O_{14}P$

Chemical Name	Identification Number (CAS-No.)	Concentration (%)
Vitamin B12	68-19-9	>96

Synonyms are provided in Section 1.

Occupational exposure limits, if available, are listed in Section 8.

### 4. FIRST AID MEASURES

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Skin Contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Obtain medical attention.
Inhalation	Remove from exposure, lie down. Move to fresh air. If not breathing, give artificial respiration. Obtain medical attention.
Ingestion	Clean mouth with water. Get medical attention.
Most important symptoms and effects, both acute and delayed	No information available.
Notes to Physician	Treat symptomatically

### 5. FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Water spray. Carbon dioxide (CO <sub>2</sub> ). Dry chemical. Chemical foam.
<b>Unsuitable Extinguishing Media</b>	No information available
• Flash point	No information available
• Method	No information available
<b>Explosion data</b>	
• Sensitivity to Mechanical Impact	No data available
• Sensitivity to Static Discharge	No data available
<b>Specific Hazards Arising from the Chemical</b>	Keep product and empty container away from heat and sources of ignition.
<b>Hazardous Combustion Products</b>	Nitrogen oxides (NO <sub>x</sub> ) Carbon monoxide (CO) Carbon dioxide (CO <sub>2</sub> ) Oxides of phosphorus
<b>Protective Equipment and Precautions for Firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

#### NFPA

Health	Flammability	Instability	Physical Hazards
1	1	1	N/A

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Ensure adequate ventilation. Use personal protective equipment.
<b>Environmental Precautions</b>	See Section 12 for additional ecological information.
<b>Methods for Containment and Clean Up</b>	Sweep up or vacuum up spillage and collect in suitable container for disposal.

## 7. HANDLING AND STORAGE

<b>Handling</b>	Avoid contact with skin and eyes. Do not breathe dust.
<b>Storage</b>	Keep in a dry, cool and well-ventilated place. Keep at temperature not exceeding -4°C. Keep container tightly closed. Protect from light. Protect from moisture.

## 8. EXPOSURE CONTROL / PERSONAL PROTECTION

### Control parameters

Exposure guidelines, ingredients with workplace control parameters.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH	Mexico
Vitamin B12		(Vacated) TWA 5 mg/m <sup>3</sup>	IDLH: 25 mg/m <sup>3</sup>	Mexico: TWA 5 mg/m <sup>3</sup>

### Legend

**OSHA** - Occupational Safety and Health Administration

**NIOSH IDLH**: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

### Appropriate engineering controls

<b>Appropriate engineering controls</b>	None under normal use conditions.
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### Individual protection measures, such as personal protective equipment

<b>Eye/face protection</b>	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
<b>Skin and Body Protection</b>	Wear appropriate protective gloves and clothing to prevent skin exposure.
<b>Respiratory protection</b>	No protective equipment is needed under normal use conditions.
<b>General hygiene considerations</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical State</b>	Solid
<b>Appearance</b>	Dark red
<b>Odor</b>	No information available
<b>Odor Threshold</b>	No information available
<b>pH</b>	No information available
<b>Melting Point/Range</b>	No data available
<b>Boiling Point/Range</b>	No information available

<b>Flash Point</b>	No information available
<b>Evaporation Rate</b>	Not applicable
<b>Flammability (solid, gas)</b>	No information available
<b>Flammability or explosive limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Vapor Pressure</b>	No information available
<b>Vapor Density</b>	Not applicable
<b>Specific Gravity</b>	No information available
<b>Solubility</b>	Soluble in water
<b>Partition coefficient; n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No information available
<b>Viscosity</b>	Not applicable
<b>Molecular Formula</b>	C63 H88 Co N14 O14 P
<b>Molecular Weight</b>	1355.38

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	None known, based on information available
<b>Chemical stability</b>	Stable under normal conditions. Hygroscopic. Light sensitive.
<b>Possibility of hazardous reactions</b>	None under normal processing.
<b>Conditions to avoid</b>	Exposure to light. Incompatible products. Exposure to moist air or water.
<b>Incompatible materials</b>	Acids, Strong acids
<b>Hazardous decomposition products</b>	Nitrogen oxides (NO <sub>x</sub> ), Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Oxides of phosphorus
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.

## 11. TOXICOLOGICAL INFORMATION

### **Acute Toxicity**

Product Information	No acute toxicity information is available for this product
Toxicologically Synergistic	No information available

### **Delayed and immediate effects as well as chronic effects from short and long-term exposure**

Irritation	No information available
Sensitization	No information available
Carcinogenicity	The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No.	IARC	NTP	ACGIH	OSHA	Mexico
Vitamin B12	68-19-9	Not listed	Reasonably Anticipated	Not listed	Not listed	Not listed

<b>Mutagenic Effects</b>	No information available
<b>Reproductive Effects</b>	No information available
<b>Developmental Effects</b>	No information available
<b>Teratogenicity</b>	No information available
<b>STOT - single exposure</b>	None known
<b>STOT - repeated exposure</b>	None known
<b>Aspiration hazard</b>	No information available
<b>Symptoms / effects, both acute and delayed</b>	No information available
<b>Endocrine Disruptor Information</b>	No information available
<b>Other Adverse Effects</b>	The toxicological properties have not been fully investigated.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity Effects

#### Persistence and Degradability

Soluble in water Persistence is unlikely based on information available.

#### Bioaccumulation

No information available.

#### Mobility

Will likely be mobile in the environment due to its water solubility.

## 13. DISPOSAL CONSIDERATIONS

### **Waste Disposal Methods**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. TRANSPORTATION INFORMATION

<b>DOT</b>	Not regulated
<b>TDG</b>	Not regulated
<b>IATA</b>	Not regulated
<b>IMDG/IMO</b>	Not regulated

## 15. REGULATORY INFORMATION

### International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCs	AICS	IECS	KECL
Vitamin B12	X	X	-	200-680-0	-		X	-	X	X	X

Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated

polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base

Production and Site Reports (40 CFR 710(B).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

### **U.S. Federal Regulations**

**TSAC 12(b)** Not applicable

**SARA 13** Not applicable

Component	CAS-No.	Weight %	SARA 313 – Threshold Values %
Vitamin B12	68-19-9	>96%	1.0

**SARA 311/312 Hazard Categories** See section 2 for more information

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Vitamin B12	-	-	X	X

**Clean Air Act** Not applicable

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Vitamin B12	X		-

**OSHA** Not applicable

**CERCLA** Not applicable

**California Proposition 65** This product does not contain any Proposition 65 chemicals

**U.S. State Right-to-Know Regulations** Not applicable

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Vitamin B12	-	X	X	X	X

### **U.S. Department of Transportation**

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

### **U.S. Department of Homeland Security**

This product does not contain any DHS chemicals.

### **Other International Regulations**

**Mexico - Grade** No information available

**16. OTHER INFORMATION**

**Disclaimer:** This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. All recommendations for the use of our products, whether given by us, orally or to be implied from data or lab tests results by us, are based on the current state of our knowledge at the time those recommendations are made. When additional information is obtained, these recommendations may be updated. They may also be influenced by circumstances outside our control. Notwithstanding, such recommendation the user is responsible that the product as supplied by us is suitable to the process or purpose he intends to use it. The user of the product is solely responsible for compliance with all laws and regulations applying to the use of this product. Since we cannot control the application, use or processing of the product, we do not accept responsibility. Therefore, the user should assure that the intended use of the product will not infringe in any party's intellectual property right.

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**End of Safety Data Sheet**