



TOKYO CHEMICAL INDUSTRY CO., LTD.

Vitamin B12

Revision 2  
number:

Revision date: 03/04/2023

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## SAFETY DATA SHEET

### 1. IDENTIFICATION

**Product name:** Vitamin B12  
**Product code:** C0449  
**Company:** TOKYO CHEMICAL INDUSTRY CO., LTD.  
**Address:** 4-10-2, Nihonbashi-honcho, Chuo-ku, Tokyo 103-0023, Japan  
**Responsible department:** Global Business Department  
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**Revision number:** 2

### 2. HAZARDS IDENTIFICATION

**Classification of the substance or mixture**

<b>PHYSICAL HAZARDS</b>	Not classified
<b>HEALTH HAZARDS</b>	Not classified
<b>ENVIRONMENTAL HAZARDS</b>	Not classified

**Label elements**

<b>Pictograms or hazard symbols</b>	None
<b>Signal word</b>	No signal word
<b>Hazard statements</b>	None
<b>Precautionary statements</b>	None

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance/mixture:** Substance  
**Components:** Vitamin B12  
**Percent:** >95.0%(E)  
**CAS RN:** 68-19-9  
**Synonyms:** Cyanocobalamin  
**Chemical Formula:**  $C_{63}H_{88}CoN_{14}O_{14}P$   
**Notice Through Official Gazettes Reference Number**  
**ENCS:** Not Listed  
**ISHL:** 1-(1)-54

### 4. FIRST-AID MEASURES

**Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

**Skin contact:** Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention.

**Eye contact:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

**Ingestion:** Get medical advice/attention if you feel unwell. Rinse mouth.

**Protection of first-aiders:** A rescuer should wear personal protective equipment, such as rubber gloves and air-tight goggles.

## 5. FIRE-FIGHTING MEASURES

<b>Suitable extinguishing media:</b>	Dry chemical, foam, water spray, carbon dioxide.
<b>Specific hazards arising from the chemical:</b>	Take care as it may decompose upon combustion or in high temperatures to generate poisonous fume.
<b>Precautions for firefighters:</b>	Fire-extinguishing work is done from the windward and the suitable fire-extinguishing method according to the surrounding situation is used. Uninvolved persons should evacuate to a safe place. In case of fire in the surroundings: Remove movable containers if safe to do so.
<b>Special protective equipment for firefighters:</b>	When extinguishing fire, be sure to wear personal protective equipment

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions, protective equipment and emergency procedures:</b>	Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc.
<b>Environmental precautions:</b>	Prevent product from entering drains.
<b>Methods and materials for containment and cleaning up:</b>	Sweep dust to collect it into an airtight container, taking care not to disperse it. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

## 7. HANDLING AND STORAGE

<b><u>Precautions for safe handling</u></b>	
<b>Technical measures:</b>	Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dispersion of dust. Wash hands and face thoroughly after handling. Use a local exhaust if dust or aerosol will be generated.
<b>Advice on safe handling:</b>	Avoid contact with skin, eyes and clothing.
<b><u>Conditions for safe storage, including any incompatibilities</u></b>	
<b>Storage conditions:</b>	Keep container tightly closed. Store in a refrigerator. Store under inert gas. Protect from moisture. Store away from incompatible materials such as oxidizing agents. Heat-sensitive, Hygroscopic
<b>Packaging material:</b>	Comply with laws.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>Engineering controls:</b>	Install a closed system or local exhaust as possible so that workers should not be exposed directly. Also install safety shower and eye bath.
<b>Control parameters:</b>	Not set up
<b>Personal protective equipment</b>	
<b>Respiratory protection:</b>	Dust respirator. Follow local and national regulations.
<b>Hand protection:</b>	Protective gloves.
<b>Eye protection:</b>	Safety glasses. A face-shield, if the situation requires.
<b>Skin and body protection:</b>	Protective clothing. Protective boots, if the situation requires.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state (20°C):</b>	Solid
<b>Form:</b>	Crystal - Powder
<b>Colour:</b>	Red - Deep purple
<b>Odour:</b>	Odorless
<b>Melting point/freezing point:</b>	No data available
<b>Boiling point/range:</b>	No data available
<b>Flammability(solid, gas):</b>	No data available
<b>Flash point:</b>	No data available
<b>Autoignition temperature:</b>	No data available
<b>Flammability or explosive limits:</b>	
<b>Lower:</b>	No data available
<b>Upper:</b>	No data available
<b>pH:</b>	No data available
<b>Kinematic viscosity:</b>	No data available
<b>Solubility(ies):</b>	
<b>[Water]</b>	Slightly soluble (12.5g/L, 25°C)
<b>[Other solvents]</b>	
<b>Insoluble:</b>	Ether, Acetone, Chloroform
<b>Log Pow:</b>	No data available
<b>Relative density:</b>	No data available
<b>Vapour density:</b>	No data available
<b>Particle characteristics:</b>	No data available

## 10. STABILITY AND REACTIVITY

<b>Reactivity:</b>	No data available
<b>Chemical stability:</b>	Stable under proper conditions.
<b>Possibility of hazardous reactions:</b>	No special reactivity has been reported.
<b>Conditions to avoid:</b>	No data available
<b>Incompatible materials:</b>	Oxidizing agents, Strong acids
<b>Hazardous decomposition products:</b>	Carbon dioxide, Carbon monoxide, Nitrogen oxides (NOx), Phosphorus oxides

## 11. TOXICOLOGICAL INFORMATION

<b>Acute Toxicity:</b>	ipr-mus LDLo:1364 ug/kg orl-mus LD:>5 g/kg scu-mus LDLo:2727 ug/kg ivn-mus LD50:2 g/kg
<b>Skin corrosion/irritation:</b>	No data available
<b>Serious eye damage/irritation:</b>	No data available
<b>Germ cell mutagenicity:</b>	No data available
<b>Carcinogenicity:</b>	
<b>IARC =</b>	No data available
<b>NTP =</b>	No data available
<b>Reproductive toxicity:</b>	ims-mus TDLo:84 mg/kg (11D preg) orl-rat TDLo:115 mg/kg (1-22D preg)
<b>STOT-single exposure:</b>	No data available
<b>STOT-repeated exposure:</b>	No data available
<b>Aspiration hazard:</b>	No data available
<b>RTECS Number:</b>	GG3750000

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity:

Fish:	No data available
Crustacea:	No data available
Algae:	No data available
Persistence / degradability:	No data available
Bioaccumulative potential(BCF):	No data available
Mobility in soil	
Log Pow:	No data available
Soil adsorption (Koc):	No data available
Henry's Law (PaM <sup>3</sup> /mol):	No data available
Other adverse effects:	No data available

## 13. DISPOSAL CONSIDERATIONS

Recycle to process, if possible. Consult your local regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.

## 14. TRANSPORT INFORMATION

UN-No:	Not listed
Hazards Class:	Does not correspond to the classification standard of the United Nations
Specific precautionary transport measures and conditions:	

## 15. JAPANESE REGULATORY INFORMATION

ISHL(Article 57):	Dangerous or Harmful Substances Subject to Be Indicated their Names, etc.
ISHL(Article 57-2):	Dangerous or Harmful Substances Subject to Be Notified their Names, etc.
Pollutant Release and Transfer Register Law:	on Designated Chemical Substances, Class I List (No.176)

## 16. OTHER INFORMATION

### The reference company name of written contents

Company:	TOKYO CHEMICAL INDUSTRY CO., LTD.
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This SDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. The products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.