
SAFETY DATA SHEET

Section 1: IDENTIFICATION of CHEMICAL PRODUCT and COMPANY

Product Name:	Cobalex 2000 B12 plus Selenium Injection
Product Identifier:	2 mg/mL hydroxocobalamin (as hydroxocobalamin acetate) and 4 mg/mL selenium (as sodium selenate) solution for injection.
Product Code:	503835 (500 mL pillow pack)
Recommended Use:	For the treatment and control of Vitamin B ₁₂ and selenium deficiency in sheep and cattle.
Restrictions on Use:	For animal treatment only.
Company Identification:	Jurox Pty Limited
Address:	85 Gardiner Street Rutherford NSW 2320 Australia
Customer Centre:	1800 023 312
Email:	customerservice@jurox.com.au
National Poisons Information Centre:	13 1126 (24 hours)
Emergency Telephone Number:	1800 023 312 (9am – 5pm, Monday to Friday)

Section 2: HAZARDS IDENTIFICATION

GHS Hazard Classifications: This product has been assessed according to GHS and is classified as follows:

GHS Category	Hazard code	Hazard Statement
Chronic Aquatic Hazard Category 3	H412	Harmful to aquatic life with long lasting effects

GHS Label Elements:

<u>Signal Word:</u>	No signal word.
<u>Pictograms:</u>	No pictogram.
<u>Precautionary Statements:</u>	<u>Prevention</u> P103 Read label before use. P273 Avoid release to the environment. <u>Response</u> No response statements. <u>Storage</u> No storage statements.

Disposal

P501 Dispose of unused product in accordance with local regulations.
Dispose of empty container by wrapping with paper and placing in garbage.
Discarded needles should immediately be placed in a designated and appropriately labelled 'sharps' container.

N.B.: The above statements are determined by Work Health and Safety regulations and may not reflect Signal Headings and First Aid and Safety statements on product labelling, which are determined by a competent authority during assessment for registration.

Other hazards: None known.

Section 3: COMPOSITION / INFORMATION on INGREDIENTS

INGREDIENT	CAS No.	CONTENT
Sodium selenate	13410-01-0	0.97%
Hydroxocobalamin acetate	22465-48-1	0.23%
Ingredients not contributing to the hazards	-	> 98%

Section 4: FIRST AID MEASURES

General Information: Consult the National Poisons Centre on 13 1126 or a doctor immediately in every case of suspected chemical poisoning. Never give fluids or induce vomiting if a patient is unconscious or convulsing regardless of cause of injury. If medical advice/attention is needed, have this SDS, product container or label at hand.

Symptoms and Effects of Exposure: None known.

Inhalation: If respiratory symptoms occur, remove patient to fresh air. Lay patient down and keep warm and rested. If breathing is shallow or has stopped, ensure airway is clear and apply resuscitation. If breathing is difficult, give oxygen. Seek medical assistance immediately.

Ingestion: If swallowed, DO NOT induce vomiting. Rinse mouth. Keep subject warm and at rest. For advice, contact a doctor or the National Poisons Centre on 13 1126.

Skin: If skin contact occurs, wash affected area thoroughly with plenty of soap and water for at least 20 minutes. If skin irritation or rash occurs, get medical advice/attention.

Eye: If eye contact occurs, rinse cautiously with water for at least 20 minutes. Continue rinsing. If eye irritation persists, get medical advice/attention.

Injection: Treat as for needle stick injury. Wash the wound thoroughly with soap and water or use a waterless cleanser or antiseptic if water is unavailable. Apply a dressing as necessary, and apply pressure through the dressing if bleeding is still occurring. Do not squeeze or rub the injury site. Dispose of the needle in a suitable sharps container and seek medical advice/attention if concerned.

Recommended First Aid Facilities: Ready access to running water and soap is required. Accessible eyewash is required.

Advice to Doctor: Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

Flash Point: No data available on the mixture. Product is comprised of > 95% water so is unlikely to be flammable.

Hazardous Combustion Products: If involved in a fire may emit toxic and corrosive fumes.

Extinguishing Media: There is no restriction on the type of extinguisher which may be used. Use extinguishing media suitable for surrounding area.

Protective Equipment: Protective gloves and boots and breathing apparatus.

Hazchem Code: None specified.

Section 6: ACCIDENTAL RELEASE MEASURES

Spills and Disposal: Wear appropriate protective clothing. For small spills, wash area well with excess water. For large spills, exclude non-essential people from the area. Contain spill and absorb with inert material such as soil, sand or absorbent granules and place in a sealable waste container. Ventilate area and wash spill site after pick-up complete. Dispose of waste safely in an approved landfill.

Protective Clothing: For appropriate personal protective equipment see section 8.

Environmental Precautions: Prevent from entering drains, waterways or sewers. If contamination of drains and waterways occurs, advise local authority.

Section 7: HANDLING AND STORAGE

Handling: The product should be handled with care to avoid exposure. Avoid contact with skin, eyes and inhalation of vapours. Take care to avoid accidental self-injection. Use personal protective equipment as required. Do not eat, drink or smoke while handling product.

Storage: Store below 30°C (room temperature). Protect from light. Do not freeze.

Other Information: Always read the label before use. See label for further information on handling and storage.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

This SDS describes personal protective measures relating to long term industrial and manufacturing exposure and emergency situations, such as accidents and spills. See product label for personal protective measures during normal use of the marketed product.

Exposure Limits: No exposure limits have been assigned for this product. Known exposure limits for ingredients are as follows:

Australian Exposure Standards

INGREDIENT	TWA	STEL
Sodium selenate, anhydrous	0.1 mg/m ³	Not available

Emergency Limits

INGREDIENT	TEEL-1	TEEL-2	TEEL-3
Sodium selenate, anhydrous	1.4 mg/m ³	1.6 mg/m ³	2 mg/m ³

Engineering Controls: Use only in a well ventilated area. Ensure that the work environment remains clean.

Personal Protective Equipment (PPE):

Eye Protection: Protective glasses or goggles are recommended when handling bulk quantities of this product.

Skin Protection: When handling bulk product, prevent skin contact by wearing chemical protective gloves e.g. PVC.

Respiratory Protection: Not required for the normal use of this product.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, deep red liquid, free of particulate matter.	Upper / Lower Flammability Limits:	Not available.
Odour:	Not available.	Vapour Pressure:	Not available.
Odour Threshold:	Not available.	Vapour Density:	Not available.
pH:	3.5 - 5.0	Relative Density / Specific Gravity:	~ 1.015
Melting Point / Freezing Point:	Not available.	Solubility:	Aqueous solution. Soluble in water.
Boiling Point and Boiling Range:	Not available.	Partition Coefficient (n-octanol/water):	Not available.
Flash Point:	Not available.	Auto-Ignition Temperature:	Not available.
Evaporation Rate:	Not available.	Decomposition Temperature:	Not available.
Flammability:	Not available.	Viscosity:	Not available.

Section 10: STABILITY AND REACTIVITY

Reactivity: This product is unlikely to react or polymerise under normal storage conditions.

Chemical Stability: When stored appropriately this product should show no significant degradation within the expiry period shown on the label.

Conditions to Avoid: Extreme temperatures.

Incompatible Materials: Oxidising agents.

Hazardous Decomposition Products: No data available.

Section 11: TOXICOLOGICAL INFORMATION**Acute Toxicity:**

Ingestion: No data for the mixture is available. Based on available data for the ingredients, the mixture is not considered to be acutely toxic by the oral route.

Sodium selenate: Oral LD₅₀: 1.6 mg/kg (rat).

Inhalation: No data for the mixture is available. Based on available data for the ingredients, the mixture is not considered to be acutely toxic by the inhalation route.

Dermal: No data for the mixture is available. Based on available data for the ingredients, the mixture is not considered to be acutely toxic by the dermal route.

Injection: No data for the mixture is available.

Sodium selenate: Subcutaneous LDLo: 11.3 mg/kg (rat).

Hydroxocobalamin acetate: Intravenous LD₅₀: 2000 mg/kg (mouse).

Aspiration Hazard: No data for the mixture is available. Based on available data for the ingredients, the mixture is not considered to be an aspiration hazard.

Respiratory Irritation: No data for the mixture is available. Based on available data for the ingredients, the mixture is not considered to be a respiratory irritant.

Skin Corrosion / Irritation: No data for the mixture is available. Based on available data for the ingredients, the mixture is not considered to be a skin irritant.

Serious Eye Damage / Irritation: No data for the mixture is available. Based on available data for the ingredients, the mixture is not considered to be an eye irritant.

Respiratory or Skin Sensitisation: No data for the mixture is available. Based on available data for the ingredients, the mixture is not considered to be a skin sensitiser or respiratory sensitiser.

Germ Cell Mutagenicity: No data for the mixture is available. Based on available data for the ingredients, the mixture is not considered to be mutagenic.

Carcinogenicity: No data for the mixture is available. Based on available data for the ingredients, the mixture is not considered to be carcinogenic.

Reproductive Toxicity: No data for the mixture is available. Based on available data for the ingredients, the mixture is not considered to be a reproductive toxicant.

Specific Target Organ Toxicity (STOT): Single exposure: No data for the mixture is available. Based on available data for the ingredients, the mixture is not considered to be a specific target organ toxicant after single exposure.

Specific Target Organ Toxicity (STOT): Repeated exposure: No data for the mixture is available. Based on available data for the ingredients, the mixture is not considered to be a specific target organ toxicant after repeat exposure. Animal studies show that long term oral exposure to sodium selenate can lead to liver damage. Rats that received selenium (as sodium selenate) at a dietary level of 100 ppm ate little food and all died in 8-16 days; those receiving 50 ppm all died in 10-97 days. A dietary level of 15 ppm was tolerated for 72 days or more, but food intake was about half of normal. All rats survived a dietary level of 7.5 ppm (about 0.37 mg/kg/day) for 6 months, and their growth was normal [Source: EPA NZ CCID].

Narcotic Effects: No data for the mixture is available. Based on available data for the ingredients, the mixture is not considered to have any narcotic effects.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: No data for the mixture is available. Based on available data for the ingredients, the mixture is classified as **Chronic Aquatic Hazard Category 3**. Sodium selenate is bioaccumulative - water flea BCF = 3650.

Fish

Sodium selenate: LC₅₀ (96h): 0.69 mg/L, NOEC (32 day): 0.39 mg/L.

Hydroxocobalamin acetate: No data.

Crustacea

Selenium: LC₅₀ (48h): 0.083 mg/L (LC₅₀ (sodium selenate) = LC₅₀ (selenium) x 2.41 = 0.083 x 2.41 = 0.20003).

Hydroxocobalamin acetate: No data.

Algae and other aquatic plants

Sodium selenate: EC₅₀ (96h): 0.2 mg/L, NOEC (7 day): 0.0091 mg/L.

Hydroxocobalamin acetate: No data.

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
Sodium selenate	HIGH	HIGH	LOW (LogKOW = -3.1818)	LOW (KOC = 48.64)
Hydroxocobalamin	No data available	No data available	No data available	No data available

Section 13: DISPOSAL INFORMATION

Product Disposal: Dispose of product only by using according to label or at an approved landfill.

Container Disposal: Wrap with paper and place in garbage.

Section 14: TRANSPORT INFORMATION

Dangerous Goods Classification: Not considered a Dangerous Good for land, sea and air transport.

Hazchem Code: None specified.

Section 15: REGULATORY INFORMATION

Poisons Schedule: S6

APVMA Registration No: 64781

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations.

Section 16: OTHER INFORMATION**Legend:**

AICS	Australian Inventory of Chemical Substances.
BCF	Bioconcentration factor. The ratio of the concentration of a substance in an aquatic organism to the concentration of the substance in the surrounding water.
CAS No.	Chemical Abstracts Service Registry Number.
EC₅₀	The median effect concentration, being a statistically derived concentration of a substance that can be expected to cause an adverse reaction in 50% of organisms or a 50% reduction in growth or in the growth rate of organisms.
GHS	Globally Harmonized System of Classification and Labelling of Chemicals.
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially firefighters.
KOC	Soil-Water Partition Coefficient. The ratio of a chemical's concentration that is adsorbed in the soil to the concentration of chemical in solution.
KOW	Octanol Water Partition Coefficient. The ratio of a compound's concentration in a known volume of n-octanol to its concentration in a known volume of water after the octanol and water have reached equilibrium.
LC₅₀	The median lethal concentration, being a statistically derived concentration of a substance that can be expected to cause death in 50% of animals.
LD₅₀	The median lethal dose, being a statistically derived single dose of a substance that can be expected to cause death in 50% of animals.
LDLo	Lethal Dose Low. The lowest published lethal dose.
NICNAS	National Industrial Chemicals Notification and Assessment Scheme.
NOEC	No-observable-effect-concentration.
PPE	Personal Protective Equipment.
PVC	Polyvinyl chloride.
STEL	Short term exposure limit.
STOT	Specific Target Organ Toxicity.
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons.
TEELs	Temporary Emergency Exposure Limits. Guidelines designed to predict the response of members of the general public to different concentrations of a chemical during an emergency response incident.
TEEL-1	The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic, nonsensory effects. However, these effects are not disabling and are transient and reversible upon cessation of exposure.
TEEL-2	The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience irreversible or other serious, long-lasting, adverse health effects or an impaired ability to escape.
TEEL-3	The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience life-threatening adverse health effects or death.
TWA	Time-Weighted Average. The average exposure over a specified period, usually a nominal eight hours.

**References:**

ChemID Plus

EPA New Zealand Chemical Classification and Information Database (CCID)

HSDB (Hazardous Substances Data Bank)

This version issued: 28 November 2017 and is valid for 5 years from this date.**Supersedes:** This SDS supersedes the version issued on 9 May 2016.**Revision History:**

Date of Revision	Reason
28 November 2017	Addition of Jurox email address, minor updates to Sections 3, 4, 10, 12 and 16.

This information is based on data believed by Jurox Pty Limited to be accurate at the time of writing but is subject to change without notice. It is given in good faith, but no warranty expressed or implied is made as to its accuracy, completeness otherwise and no assumption of liability from howsoever arising is made by Jurox Pty Limited by reason of the provision of this information. Every person dealing with the materials referred to herein do so at his/her own risk absolutely and must make independent determinations of suitability and completeness of information from all sources to ensure their proper use.

END OF SDS