



MATERIAL SAFETY DATA SHEET

Unlock AHD 2000 B12 Injection + Selenium

Issue date: 20 May 2020 Review date: 20 May 2025

SECTION 1: SUBSTANCE IDENTIFICATION AND SUPPLIER

Product name: Unlock AHD 2000 B12 Injection + Selenium

ACVM Registration No: A11785

Recommended Use: For the treatment and control of cobalt and selenium deficiency in sheep and cattle

Company identification Address:

1229 Maraekakaho Road
Hastings 4175
New Zealand
Phone (06) 873 3611

Poisons Information Centre: 0800-764-766 (0800 POISON)

Or CHEMCAL 0800-243-622 24hr emergencies only

Transport Emergency 111 Fire and police

SECTION 2: HAZARD IDENTIFICATION

EPA APPROVAL NUMBER: HSR002389

- 2.1 Hazard classification: 9.1C Aquatic ecotoxicant
- 2.2 GHS Signal word: WARNING
- 2.3 Hazard Statement:
H412: Harmful to aquatic life with long lasting effects.
- 2.4 Prevention:
P103: Read label before use.
P273: Avoid release to the environment.
- 2.5 Disposal:
P501: Dispose of contents and containers as specified on the registered label.

SECTION 3: COMPOSITION INFORMATION

INGREDIENT	CAS Number.	Concentration
Hydroxocobalamin (Vitamin B12)	22465-48-1	2 g/L
Selenium (as sodium selenite)	10102-23-5	4 g/L
Remaining ingredients are commercially sensitive and cannot be disclosed in a public document.		

SECTION 4: FIRST AID MEASURES

- 4.1 **General Information:** For advice contact the National Poisons Centre on 0800 POISON (0800 764 766), or a doctor immediately.
SELF-INJECTION: Seek medical attention immediately. Have product container to hand.
Observe good work practices and avoid skin and eye contact.
Wash hands and exposed skin before meals and after use.
Do not eat or drink while using.
Launder protective clothing separately from other clothing, and before each re-use.
- 4.2 **Inhalation:** Remove to fresh air.
- 4.3 **Skin Contact:** If skin or hair contact occurs remove contaminated clothing and flush skin and hair with running water.

- 4.4 **Eyes:** If splashed in eyes wash out immediately with water.
- 4.5 **Ingestion:** If swallowed seek medical attention immediately. Have product container to hand. Rinse mouth out. Do NOT induce vomiting.
- 4.6 **Workplace facilities:** No special facilities required
- 4.7 **Notes for medical personnel:** Apply symptomatic therapy (no specific antidote).

SECTION 5: FIRE FIGHTING MEASURES

- 5.1 **Fire and explosion hazards:** Non-flammable, Non-combustible, Non explosive
Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Water. May form toxic mixtures in air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures.
- 5.2 **Extinguishing Media:** In case of fire, use carbon dioxide, extinguishing powder or water jet. Fight larger fires with water jet or alcohol resistant foam.
- 5.3 **Fire Fighting:** Self-contained breathing apparatus. Safety boots, non-flammable overalls, gloves, hat and eye protection.
- 5.4 **Flash point:** No data available
- 5.5 **Auto ignition temperature:** No data available
- 5.6 **Flammability class:** No data available

SECTION 6: ACCIDENTAL RELEASE MEASURES

- 6.1 **Personal Precautions:** Wear suitable protective clothing. Avoid contact with skin, eyes and clothing. Restrict access to contaminated area. Contain the spill and prevent further dispersion. Retrieve intact containers from site. Place damaged containers into containment devices.
- 6.2 **Environmental Precaution:** Absorb spills with inert material (e.g. sand or vermiculite), and place in waste containers. Wash the area with water and absorb with further inert material. Collect spilled material and place in sealable containers for subsequent disposal. Prevent contamination of water courses or sewers. Dispose of waste safely.
- 6.3 **Methods and materials for containment and cleaning up:** If greater than 1000L is stored in one location, secondary containment and emergency plans to manage any potential spills must be in place. In all cases design storage to prevent discharge to storm-water drains. (If this occurs contact your regional council immediately).

SECTION: 7 HANDLING AND STORAGE

- 7.1 **Handling:** Wash hands and exposed skin thoroughly after handling. Do not breathe mist.
- 7.2 **Certified Handler:** No.
- 7.3 **Tracking:** No
- 7.4 **Storage:** Store below 25°C. Protect from light. Store in original container. Do not store with food. Keep out of reach of children.

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

- 8.1 **Occupational exposure limits:** Sodium selenite 0.1 mg/m³ (WES-TWA).
- 8.2 **Engineering controls:** Prevent exposure by using personal protective equipment and work practices that prevent skin and eye contact.
- 8.3 **Protective material types:** We suggest that protective clothing be made from rubber, PVC.

SECTION 9: PHYSICAL DESCRIPTION / PROPERTIES

Appearance:	Clear red solution
Odour:	No data available
Odour threshold:	No data available
pH:	4.5 – 5.5
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	No data available
Flash point:	No data available
Flammability:	No data available
Upper/lower flammability or explosive limits:	No data available
Vapour pressure:	No data available
Vapour density:	No data available
Relative density:	0.990 – 1.050 g/mL
Solubility(ies):	Soluble in water
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Kinematic viscosity:	No data available

SECTION 10: STABILITY AND REACTIVITY

- 10.1 Reactivity: Stable under normal conditions of use and storage.
- 10.2 Conditions to Avoid: No specific conditions to avoid.
- 10.5 Incompatibilities: No specific materials to avoid.
- 10.6 Hazardous decomposition products: Hazardous decomposition products are expected when heated to decomposition temperatures. Use appropriate PPE when fighting fires.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity:	Sodium selenate 6.1B (oral) R PHRASE: R 25 [Company Data] 6.1B (inhalation) Inhalation Form: R PHRASE: R 23 [Company Data] Refer to EPA website
Aspiration hazard:	No data available
Respiratory irritation:	No data available
Skin corrosion/irritation:	No data available
Serious eye damage/ irritation:	Sodium Selenate 6.4A CROSS REFERENCE: Cas #13410-01-0 SPECIES: RESULT: Severe eye irritation may be seen with selenium dust exposure. Refer to EPA website
Respiratory or skin sensitisation:	No data available
Germ cell Mutagenicity:	Sodium Selenate 6.6B CROSS REFERENCE: Cas #13410-01-0 There remains some concern that human exposure to selenium compounds may be associated with a mutagenic risk Refer to EPA website
Carcinogenicity:	No data available

Reproductive toxicity: No data available

Specific organ toxicity: **Sodium Selenate:**
 6.9B (oral)
 EndPoint:
 Primary Organ:
 R PHRASE: R 33 [Company Data]
 Refer to EPA website.

SECTION 12: ECOLOGICAL INFORMATION

- 12.1 Aquatic: Sodium selenate:**
 9.1A (fish) R PHRASE: R 50/53 [Company Data]
 9.1A (crustacean) R PHRASE: R 50/53 [Company Data]
 9.1A (algal) R PHRASE: R 50/53 [Company Data]
 Refer to EPA website
- 12.2 Terrestrial: Sodium selenate**
 9.3A R PHRASE: R 25 [Company Data]
 Refer to EPA website e
- 12.3 Soil: Sodium selenite**
 9.2A
 CROSS REFERENCE: Cas #13410-01-0
 Effect of Selenic acid, Disodium salt on Medicago sativa (Alfalfa) Development
 ENDPOINT: 22 day(s) EC20 of 3.3 mg/kg soil (NR: NR) on Measurement: Emergence;
 Response Site: NR
 Effect of Selenic acid, Disodium salt on Medicago sativa Growth Endpoint Data Only
 ENDPOINT: 22 day(s) EC20 of 0.2 mg/kg soil (NR: NR) on Measurement: Height;
 Response Site: Shoot
 ENDPOINT: 22 day(s) EC20 of 0.2 mg/kg soil (NR: NR) on Measurement: Length;
 Response Site: Root
 ENDPOINT: 22 day(s) EC20 of 0.1 mg/kg soil (NR: NR) on Measurement: Number of
 nodules/nodulated plant roots; Response Site: NR
 ENDPOINT: 22 day(s) EC20 of 0.2 mg/kg soil (NR: NR) on Measurement: Weight;
 Response Site: Whole Organism
 ENDPOINT: 22 day(s) EC20 of 0.1 mg/kg soil (NR: NR) on Measurement: Weight;
 Response Site: Whole Organism
 ENDPOINT: 22 day(s) EC20 of 0.2 mg/kg soil (NR: NR) on Measurement: Weight;
 Response Site: Whole Organism
 Effect of Selenic acid, Disodium salt on Medicago sativa (Alfalfa) Mortality
 ENDPOINT: 22 day(s) EC20 of 0.3 mg/kg soil (NR: NR) on Measurement: Mortality;
 Response Site: NR
 Effect of Selenic acid, Disodium salt on Medicago sativa (Alfalfa) Population
 ENDPOINT: 22 day(s) EC20 of 0.1 mg/kg soil (NR: NR) on Measurement: Biomass;
 Response Site: Root
 ENDPOINT: 22 day(s) EC20 of 0.1 mg/kg soil (NR: NR) on Measurement: Biomass;
 Response Site: Shoot
 ENDPOINT: 22 day(s) EC20 of 0.1 mg/kg soil (NR: NR) on Measurement: Biomass;
 Response Site: Whole Organism
 The Agency have used the lowest of the 22 days plant data from the EPA
 (Environmental Protection Agency) as there was no 14 days one. The EC20 is 0.1 mg/kg
 based on the effect of Component F to Medicago sativa (Alfalfa).
 Refer to EPA website
- 12.4 Persistence and degradability:** Sodium selenate ND Refer to EPA website.
- 12.5 Bioaccumulative:** Sodium selenate ND Refer to EPA website.

12.6 **Mobility in soil:** Sodium selenite
 Soil DT 50 > 30 days: ND
 Refer to EPA website

12.7 **Other adverse effects:** No data available.

SECTION 13: DISPOSAL INFORMATION

Disposal: Preferably dispose of the product by its intended use. If this isn't possible, dispose of product and packaging at an approved landfill or other approved hazardous waste disposal facility.

Avoid contamination of any water source.

Preferably recycle empty container using a suitable drench container recovery program (e.g. AgRecovery: for details visit the site <http://www.agrecovery.co.nz/programmes/container-recycling>)

If this isn't possible then burn empty container in an appropriate incinerator, providing circumstances permit; i.e. suitable wind direction.

Otherwise crush or puncture and bury in a suitable landfill.

Do NOT re-use container for any other purpose.

SECTION 14: TRANSPORT INFORMATION

UN Number: Not applicable

UN Proper Shipping Name: Not applicable

UN Dangerous Goods class and subsidiary risk: Not applicable

UN Packaging Group: Not applicable

Environmental hazards: Not applicable

Special precautions when transporting the substance: Not applicable.

SECTION 15: REGULATORY INFORMATION

EPA approval Number: HSR002389
 See www.epa.govt.nz for controls

ACVM: A011696
 See www.foodsafety.govt.nz for registration conditions

SECTION 16: OTHER INFORMATION

Abbreviations: ACVM: Agricultural Compounds and Veterinary Medicines
 EPA: Environmental Protection Agency (previously known as ERMA)
 CAS Number: Chemical Abstracts Service Registry Number
 HAZCHEM Code: Emergency action code of numbers and letters that provide information to emergency services, especially fire fighters
 HSNO: Hazardous Substances and New Organisms (Act and Regulations)
 UN Number: United Nations Number
 SDS: Safety Data Sheet

ARTG: Australian Register of Therapeutic Goods

Ceiling Exposure Value: The maximum airborne concentration of a biological or chemical agent to which a worker may be exposed at any time.

Controls Matrix: List of default controls linking regulation numbers to Matrix code (e.g. T1, I16).

IARC: International Agency for Research on Cancer

LEL: Lower Explosive Limit

STEL: Short Term Exposure Limit - The maximum airborne concentration of a chemical or biological agent to which a worker may be exposed in any 15-minute period, provided the TWA is not exceeded

TWA: Time Weighted Average – generally referred to WES averaged over typical work day (usually 8 hours)

WES: Workplace Exposure Standard - The airborne

UEL: Upper Explosive Limit

EC50: Ecotoxic Concentration 50% – concentration in water which is fatal to 50% of a test population (e.g. daphnia, fish species)

LD50: Lethal Dose 50% – dose which is fatal to 50% of a test population (usually rats).

LC50: Lethal Concentration 50% – concentration in air which is fatal to 50% of a test population (usually rats).

References: Unless otherwise stated, toxicity information has been obtained from the EPA HSNO chemical classification information database (CCID)

<http://www.epa.govt.nz/hs/compliance/chemicals.html> for specific chemicals.

EPA Transfer Gazettes, Classifications and controls assigned for specific ingredients (consolidated gazette, 2004)

Controls Matrix, Part of the EPA New Zealand User Guide to the HSNO Control Regulations

WES 2013, The NZ Workplace Exposure Standards Effective from 2013, published by

WorkSafe NZ and available on their web site – www.worksafe.govt.nz.

Other References: Suppliers SDSs.

DISCLAIMER

This SDS was prepared by AHD Ltd, and is based on our current state of knowledge, including information obtained from suppliers. This SDS is written in good faith and constitutes a guideline (not a guarantee of safety). The level of risk each substance poses is relevant to its properties (as summarised in the MSDS) AND HOW THE SUBSTANCE IS USED. While guidelines are given for personal protective equipment, such precautions must be relevant to the use. The likely HSNO classifications, are based on experience, EPA Guidelines and international classifications. The data in this SDS relates only to the specific material designated herein and does not relate to use in combination with any other material. The information is provided in good faith based on current knowledge and experience. No warranty with regard to the product properties is expressed or implied.