Phone 07 870 2024
sales@vetpak.co.nz
www.vetpak.co.nz

Version 1.1

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SECTION 1 – IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY

Product Identifier

Product Name	Selenium 5mg
Other Names	No data available
Proper Shipping Name	Selenium 5mg/ml
Other means of Identification	None

Relevant identified uses of the substance or mixture

Relevant identified uses	For the treatment and prevention of selenium responsive diseases in sheep and cattle.

Details of the supplier of the safety data sheet

Registered company name	Vetpak Limited
Address	249 Bruce Berquist Dr, Te Awamutu 3800.
Telephone	(07) 870 2024
Website	www.vetpak.co.nz
Email	sales@vetpak.co.nz

Emergency telephone numbers

Association/ Organisation	New Zealand National Poison information centre
Emergency telephone number	0800 764 766 (07) 870 2024 Vetpak. 8.00am to 5.00pm Monday to Friday except public holidays.
Other emergency telephone numbers	New Zealand emergency services 111

SECTION 2 – HAZARDS IDENTIFICATION

Hazard Classification:

Hazardous according to the criteria of the Globally Harmonised System of classification and labelling of chemicals (GHS)

Label pictograms

GHS label elements	
Signal Word	WARNING

Hazard statements

HSNO	Hazard Code	GHS Category	Hazard Statement
6.1D (Oral)	H 302	Category 4	Harmful if swallowed
6.6B	H341	Category 2	Suspected of causing genetic defects
6.9B	H 373	Category 2	May cause damage to organs through prolonged or repeated exposure

Precautionary statements prevention

P102	Keep out of reach of children
P103	Read label before use
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapours/spray
P281	Use personal protective equipment as required

Precautionary statement responses

P101	If medical advice is needed have the product container or label on hand
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P314	Get medical advice/attention you feel unwell.

Precautionary statement storage

P405	Store locked up

Precautionary statement disposal

P501	Disposal should be through a suitably qualified contractor following the EPA guidelines

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Mixtures

CAS Number	% (weight)	Name
13410 – 01 – 0	< 10%	Sodium Selenate
3844 – 45 – 9	< 10%	Brilliant Blue Dye
7732 – 18 – 5	To 100%	Water

Description of first aid measures

Eye contact	If this product comes in contact with eyes ➢ Wash out immediately with fresh running water for several minutes ➢ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel ➢ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids ➢ If eye irritation persists seek medical attention
Skin contact	If skin or hair contact occurs ➢ Remove and isolate contaminated clothing and shoes ➢ Wash the affected area thoroughly with water and soap ➢ If skin irritation or rash occurs get medical advice / attention

Inhalation	➢ Remove victim to fresh air and keep at rest in a position comfortable for breathing. ➢ If respiratory symptoms persist, get medical advice/attention.
Ingestion	➢ If swallowed do NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Observe the patient carefully. ➢ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious ➢ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ➢ Seek medical advice.
Advice to the doctor	Show this safety data sheet (SDS) to the doctor in attendance. Treat symptomatically. Keep victim calm and warm. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves

SECTION 5 – FIREFIGHTING MEASURES

Extinguishing media

- Alcohol stable foam
- Dry chemical powder
- Carbon dioxide
- Water spray works fine but do not use water jets

Special hazards arising from the substrate or mixture

Fire incompatibility	Not considered a flammable product
Hazards from combustion	Decomposes on heating emitting toxic fumes. (Sodium oxides, Selenium, Selenium oxides)

Advice for fire fighters

Fire fighting	➢ Wear breathing apparatus plus protective gloves in the event of a fire. ➢ Prevent, by any means available, spillage from entering drains or water courses. Use fire fighting procedures suitable for surrounding area. ➢ DO NOT approach containers suspected to be hot. ➢ Equipment should be thoroughly decontaminated after use.
Fire/explosion hazard	➢ Not considered to be a significant fire risk.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor spills Less than 230L	➢ Dilute with water and mop up ➢ Absorb spill with an inert dry material (soil, sand or other inert material). ➢ Clear area of all unprotected personnel. ➢ Wear protective equipment to prevent skin and eye contamination, and inhalation of vapours. ➢ Contain. Do not allow chemical to enter drains and waterways.
Major spills More than 230L	➢ Clear area of personnel and move upwind. ➢ Alert fire brigade; explain location and nature of hazard. ➢ Wear breathing apparatus and protective clothing. Prevent spillage from entering drains or water-courses. ➢ Separate from waste water through reaction with Barium Chloride and precipitation as insoluble Barium Selenate. ➢ Contain spill with sand, earth or vermiculite. Collect recoverable product into labelled containers for recycling.

	➢ If contamination of sewers or waterways and or surrounding environment has occurred, notify local emergency services, local authorities, and the Regional Council.
Clean Up Procedures	➢ Contain and place in sealable containers
Containment	➢ Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 – HANDLING AND STORAGE

Precautions for safe handling

Safe Handling	➢ Read label before use ➢ Limit all unnecessary personal contact. ➢ Wear protective clothing when risk of exposure occurs. ➢ Use in a well-ventilated area. ➢ When handling DO NOT eat, drink or smoke. ➢ Always wash hands with soap and water after handling. ➢ Avoid physical damage to containers. Use good occupational work practice.
Other information	➢ Use site signage for large quantities ➢ Protect containers from damage and check regularly for leaks ➢ Store in accordance with NZS 8409; Management of Agrichemicals.

Conditions for safe storage, including any incompatibilities

Suitable container	➢ Store away from incompatible materials listed ➢ Store locked up ➢ Check all containers are clearly labelled and free from leaks.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No exposure limits have been assigned for this product. The lowest harmful dose by oral administration is 88ml/Kg Sodium Selenite New Zealand Workplace Exposure Standard: TWA = TWA = 0.1 mg/m3.

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level protection. The basic controls are: Process controls which involve changing the job activity or process to reduce risk Enclosure and or isolation source control keeping workers physically safe Ventilation that strategically adds and removes air in work environment. Ventilation can remove or dilute an air contaminant if designed properly
Personal protection	
Eye and face protection	➢ Safety glasses with side shields ➢ Contact lenses may pose a special hazard soft contact lenses may absorb and concentrate materials.

	➢ Medical personal should be trained and readily available in the event of chemical exposure; they should begin eye irrigation and remove contact lenses as soon as practicable. Lenses should be removed at the first sign of eye irritation
Skin protection	Wear general protective gloves e.g. light weight rubber gloves
Hand / feet protection	As above for hands; wear appropriate footwear for the environment
Body protection	Overalls or PVC Aprons if available
Other protection	➢ Overalls ➢ PVC Aprons ➢ PVC protective gear ➢ Eyewash facilities ➢ Ensure there is ready access to a safety shower

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Blue Liquid	Relative density (Water = 1)	1.01 – 1.015
Odour	Odourless	Auto ignition temperature	Not available
Odour threshold	Not available	Decomposition temperature	Not available
pH	No data	Viscosity	Not available
Melting point (^{o}C)	Not available	Molecular weight (g/mol)	Not available
Boiling point (^{o}C)	Not available	Taste	Not available
Flash point (^{o}C)	Not available	Explosive properties	Not explosive
Evaporation rate	Not available	Oxidising properties	Not available
Flammability	Not flammable	Volatile component (% vol)	Not available

SECTION 10 – STABILITY AND REACTIVITY

General Information	The solution in water is a weak base. Contact with acids produces toxic gas.
Chemical stability	Stable
Conditions to avoid	Product is stable
Incompatible materials	Incompatible/reactive with acids, reducing agents, organic compounds and oxidising agents.
Hazardous Decomposition	Thermal decomposition will produce irritating and/or toxic fumes, including Sodium oxides, Selenium, Selenium oxides
Hazardous Polymerisation	Will not occur

SECTION 11 – TOXICOLOGICAL INFORMATION

Acute effects	Acute selenium poisoning (Selenium 99%) produces central nervous system effects, which include nervousness, convulsions, and drowsiness. Other signs of intoxication can include skin eruptions, lassitude, gastrointestinal distress, teeth that are discoloured or decayed, odorous ("garlic") breath and partial loss of hair and nails.
Chronic effects	Evidence from animal tests and studies on exposed humans indicate that repeated or prolonged exposure to this chemical could result in liver damage
Inhalation	Irritating to mucous membranes and upper respiratory tract.
Ingestion	May be harmful if swallowed.
Skin	Irritant. Toxic by dermal absorption.

Eyes	Causes severe eye irritation. May cause conjunctivitis.
Carcinogenicity	Suspected of causing cancer.
Acute Toxicity	Oral (LD^{50}); 1.6mg/kg (Rat) (Selenium 99%)
Reproductive Toxicity	In laboratory animals, this compound (Selenium 99%) has caused both birth defects and damage to the reproductive system.
Mutagenicity	Possible mutagen.
Chronic Toxicity	Target organ/s; Spleen, Liver, Kidneys.

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity	Very toxic to aquatic life with long lasting effects. (Selenium 99%)**:** mortality NOEC - Pimephales promelas (fathead minnow) - 1.25 mg/l - 5.0 d LC50 - Pimephales promelas (fathead minnow) - 0.69 mg/l - 96.0 h mortality LOEC - Pimephales promelas (fathead minnow) - 2.42 mg/l - 5.0 d Toxicity to daphnia and other aquatic invertebrates : EC50 - Daphnia magna (Water flea) - 0.39 mg/l - 48 h Toxicity to algae : Growth inhibition LOEC - Chlorella vulgaris (Fresh water algae) - 0.083 mg/l - 7 d Growth inhibition EC50 - Ankistrodesmus falcatus - 0.033 mg/l - 14 d
Persistence/Degradability	No information available
Bioaccumulation Potential	No information available
Environmental Impact	No information available

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / packaging disposal	➢ Dispose of product only by using according to label or at an approved landfill. ➢ Recycle where possible. ➢ Do not contaminate bodies of water with chemical or empty container. Refer to the Local council bylaws and Land Waste Management Authority. ➢ Dissolved material in excess water is normally suitable for disposal in storm water system.
Container disposal	➢ Empty containers may contain hazardous residues. Labels should not be removed from containers until they have been appropriately cleaned. ➢ Containers should be cleaned by approved methods and then re-used or disposed of by landfill. After cleaning, all existing labels should be removed.

SECTION 14 – TRANSPORT INFORMATION

Labels required

This product is not classified as a Dangerous Goods.

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: UN, IATA, IMDG.

Not classified as a Dangerous Good under NZS 5433:2020 Transport of Dangerous Goods on Land for information.

SECTION 15 – REGULATORY INFORMATION

Safety, health and environment regulations / legislation specific for the substance or mixture

GHS Codes	6.6B, 6.9B
National Inventory	Status - Approved
Australia – AICS	Yes
Europe – EINEC / ELINCS / NLP	Yes
New Zealand – NZIoC	Yes - All ingredients are on the inventory
Environmental Protection Authority (New Zealand)	Hazardous Substances and New Organisms Amendment Act 2015
Approval Code	HSR002521 Animal Nutritional and Animal Care Products Group Standard 2020.
Certified Handler	Not required
Restriction of use	None known

SECTION 16 – OTHER INFORMATION

While Vetpak Limited in good faith has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, Vetpak Limited accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

New Zealand National Poison Information Centre: 0800 764 766
New Zealand Emergency Services: 111
Vetpak Limited: +64 7 870 2024

Definitions and abbreviations

PC – TWA	Permissible concentration – time weighted average
PC – STEL	Permissible concentration – short term exposure limit
IARC	International agency for research on cancer
ACGIH	American conference of Government Industrial Hygiene
STEL	Short term exposure limit
TEEL	Temporary emergency exposure limit
IDLH	Immediate dangerous to life or health concentration
OSF	Odour safety factor
NOAEL	No observed adverse effect level
LOAEL	Lowest observed adverse effect level
TLV	Threshold limit value
LOD	Limit of detection
OTV	Odour threshold value
BCF	BioConcentration factors

END OF SDS