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Section 1 – Identification of the substance/preparation and the company

Product Name: INOVATA SELENIUM POUR ON
Company: Inovata Ltd
Address: 16 Sheffield Crescent
 PO Box 20 449
 Christchurch
Telephone Number: 0800 942 006
Recommended Use: For the prevention and treatment of selenium deficiency and selenium responsive diseases in cattle and deer.

Section 2 – Hazard Identification

Hazard Classes: Acute Toxicity-Inhalation Category 4
 Eye Irritation Category 2
 Germ Cell Mutagenicity Category 2
 Specific Target Organ Toxicity – Repeated Exposure Category 2
 Hazardous to the Aquatic Environment (Acute) Category 1
 Hazardous to the Aquatic Environment (Chronic) Category 1

Hazard Statements: Harmful if inhaled
 Causes serious eye irritation
 Suspected of causing Genetic Defects
 May cause damage to organs through prolonged or repeated exposure
 Very toxic to aquatic life
 Very toxic to aquatic life with long lasting effects

GHS label elements
 Hazard pictograms



Signal word WARNING

Prevention statements Keep out of reach of children.
 Read label before use.
 Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Do not breathe mists/fumes/spray/vapours.
 Wash hands and exposed skin thoroughly after handling.
 Use only outdoors or in a well-ventilated area.
 Avoid release to the environment.
 Wear protective gloves/protective clothing/eye protection/face protection.

Section 3 – Composition Information

| Chemical Entity | CAS No. | Content [%] |
|-------------------------------|--------------|--------------|
| Selenium (as sodium selenate) | 13410-01-0 | 0.5% |
| Other | Trade secret | Trade secret |

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Section 4 – First Aid Measures

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| If Swallowed: | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. If you feel unwell contact the National Poisons Centre or doctor. |
| If in eyes: | IF IN EYES: 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. |
| If on skin: | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. If skin irritation or rash occurs, get medical advice. |
| If inhaled: | IF INHALED: Remove to fresh air and keep comfortable for breathing. Immediately call the National Poisons Centre or doctor. Call the National Poisons Centre or doctor if you feel unwell. |

If exposed or if you feel unwell: Call the National Poisons Centre 24 hours phone: 0800 POISON (0800 764 766) or doctor. Get medical advice/attention if you feel unwell. If medical advice is needed, have product container or label at hand.

Section 5 – Fire-fighting Measures

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| Flash Point: | >100 °C |
| Fire & Explosion Hazards: | Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures. |
| Extinguishing Media: | Use extinguishing media suitable against surrounding fire or the cause of fire. |
| Fire Fighting Equipment | Wear full protective clothing and self-contained breathing apparatus. |

Section 6 – Accidental Release Measures

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| Personal Precautions: | Wear protective gloves/clothing and eye/face protection. Avoid contact with skin, eyes. Restrict access to contaminated area. |
| Environmental Precautions: | Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects. Avoid release to the environment. |
| Methods and Materials for Containment and Cleanup: | Spill Containment: Contain the spill by using absorbent materials (e.g., sand, vermiculite). Cleanup: Collect the absorbed material in a suitable container for disposal. Disposal: Dispose of the collected material safely. |

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Section 7– Handling and Storage

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| Handling: | Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mists/fumes/spray/vapours. Wash hands and exposed skin thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. |
| Storage: | Store below 25 °C. Store locked up. |
| Certified Handler | Not required |
| Tracking: | Not required |

Section 8 – Exposure Controls/Personal Protection

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|--------------------------------------|---|
| Occupational Exposure Limits: | No information |
| Engineering Controls: | Handle in accordance with good industrial hygiene and safety practice. Wash hands and exposed skin thoroughly after handling. Prevent exposure by using personal protective equipment. |
| Ventilation: | Handle in a well-ventilated area. |
| Eye Protection: | Avoid contact with eyes. Wear eye protection/face protection. |
| Skin Protection: | Avoid contact with skin. Wear protective gloves/protective clothing. |
| Protective Material Types: | Protective clothing be made from rubber, PVC. |

Section 9 – Physical and Chemical Properties

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| Physical Description & Colour: | Clear to slightly yellow liquid |
| Odour: | Solution with specific odour |
| Odour Threshold: | No information |
| pH: | 3.0 - 5.5 |
| Melting Point/Freezing Point: | No information |
| Initial Boiling Point and Boiling Range: | 99 °C |
| Flash Point: | >100 °C |
| Flammability (solid, gas): | No information |
| Upper/Lower Flammability or Explosive Limits: | No information |

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|--|----------------|
| Vapour Pressure: | No information |
| Vapour Density: | No information |
| Relative Density: | 1.0 -1.2 g/L |
| Solubility (ies): | No information |
| Partition Coefficient: n-octanol/water: | No information |
| Auto-Ignition Temperature: | No information |
| Decomposition Temperature: | No information |
| Kinematic Viscosity: | No information |
| Particle Characteristics: | No information |

Section 10 – Stability and Reactivity

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| Reactivity: | Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure. |
| Conditions to avoid: | Store below 25 °C. |
| Incompatibilities: | No information |
| Hazardous decomposition products: | No information |

Section 11 – Toxicological Information

Data for ingredients are presented.

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| Acute Toxicity: | Sodium selenate: | Acute Tox. 2 Classification route species: (oral) H300: Fatal if swallowed. Classification key study: Dose Descriptor: LD50 Value: 25 mg/kg bw Oral Route R PHRASE: R 25 [NCLASS] |
| | Sodium selenate: | Acute Tox. 2 Classification route species: (inhalation) Classification description: H330: Fatal if inhaled. Classification key study: Physical Form: inhalation: dust / mist Dose Descriptor: LC50 Value: 0.05 mg/L air Inhalation Route R PHRASE: R 23 [NCLASS] |

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Skin Corrosion/Irritation: No information

Serious Eye Damage/Eye Irritation:

Sodium selenate:

Eye Irrit. 2

Classification description:

H319: Causes serious eye irritation.

Classification key study:

Eye Irritation

Result: Severe

Eye Irritation may be seen with selenium dust exposure.

Respiratory or Skin Sensitisation:

No information

Germ Cell Mutagenicity:

Sodium selenate:

Muta. 2

Classification description:

H341: Suspected of causing genetic defects.

Classification key study:

Sodium selenite and sodium selenate, fed by gavaging to age-matched male Swiss albino mice and observed after 24 h following a colchicine-fixative-air drying-Giemsa schedule, were found to induce chromosome breaks and spindle disturbances in bone marrow cells. The four concentrations used were fractions of LD50 and the effects were directly proportionate to the concentration of the chemical. Sodium selenite induced a slightly higher frequency of chromosomal aberrations than sodium selenate. (Selenium salts and chromosome damage. Authors: Biswas S, Talukder G, Sharma A. Author Address: Department of Pathology, Vivekananda Institute of Medical Sciences, Calcutta, India. Source: Mutat Res 1997 May 23;390(3):201-5 [EMIC][MEDLINE])

There remains some concern that human exposure to selenium compounds may be associated with a mutagenic risk.

Carcinogenicity:

No information

Reproductive Toxicity:

No information

Specific Target Organ Toxicity- Single Exposure:

No information

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Specific Target Organ
Toxicity- Repeated Exposure:

Sodium selenate:

STOT Rep. Exp. 1
Classification description:
H372: Causes damage to organs
through prolonged or repeated
exposure.
Classification key study:
Repeated dose toxicity
Oral Route
Primary Organ Effected:
Hepatotoxicity (liver)
Secondary Organ(s) Effected:
Renal toxicity (Kidney)
Weight loss/metabolic

Aspiration Hazard:

No information

Section 12 - Ecological Information

Data for ingredients are presented.

Aquatic: Sodium selenate:

Aquatic Acute 1
Classification description:
H400: Very toxic to aquatic life.
Classification key study:
Fish
Dose Descriptor: LC50
Effect concentration: 1.6629 mg/L
Acute
Species: Pimephales promelas Fathead minnow
Type of exposure:
Duration: 96 hr
Endpoint: LC50
Value: 690 ug/l (= 0.69 mg/l)
Remark: LC50 (sodium selenate) = LC50 (selenium) x 2.41 =
 $0.69 \times 2.41 = 1.6629 \text{ mg/l}$
Chronic
Species: Pimephales promelas Fathead minnow
Type of exposure: Flow through
Duration: 32 day
Endpoint: NOEC
Value: 390 ug/l (= 0.39 mg/l)
Remark: NOEC (sodium selenate) = NOEC (selenium) x 2.41 =
 $0.39 \times 2.41 = 0.9399 \text{ mg/l}$
Aquatic Invertebrates
Dose Descriptor: LC50
Effect concentration: 0.2 mg/L
Species: Gammarus pseudolimnaeus Scud
Type of exposure: Static
Duration: 48 hr
Endpoint: LC50
Value: 83 ug/l (= 0.083 mg/l)
Remark: LC50 (sodium selenate) = LC50 (selenium) x 2.41=
 $0.083 \times 2.41 = 0.20003$
Freshwater Algae And Cyanobacteria
EC50 for freshwater algae: 0.482 mg/L
Species: Selenastrum capricornutum Green algae

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Type of exposure: Static
 Duration: 96 hr
 Endpoint: EC50
 Value: 200 ug/l (= 0.2 mg/l)
 Remark: LC50 (sodium selenate) = LC50 (selenium) x 2.41 =
 0.2 x 2.41 = 0.482

Aquatic Chronic 1
 Classification description:
 H410: Very toxic to aquatic life with long lasting effects.
 Fish
 Dose Descriptor: NOEC
 Effect concentration: 0.9399 mg/L
 Acute
 Species: Pimephales promelas Fathead minnow
 Type of exposure:
 Duration: 96 hr
 Endpoint: LC50
 Value: 690 ug/l (= 0.69 mg/l)
 Remark: LC50 (sodium selenate) = LC50 (selenium) x 2.41 =
 0.69 x 2.41 = 1.6629 mg/l
 Chronic
 Species: Pimephales promelas Fathead minnow
 Type of exposure: Flow through
 Duration: 32 day
 Endpoint: NOEC
 Value: 390 ug/l (= 0.39 mg/l)
 Remark: NOEC (sodium selenate) = NOEC (selenium) x 2.41 =
 0.39 x 2.41 = 0.9399 mg/l
 Freshwater Algae And Cyanobacteria
 Species: Selenastrum capricornutum Green algae
 Type of exposure: Static
 Duration: 96 hr
 Endpoint: EC50
 Value: 200 ug/l (= 0.2 mg/l)
 Remark: LC50 (sodium selenate) = LC50 (selenium) x 2.41 =
 0.2 x 2.41 = 0.48

Terrestrial: No information

Persistence and Degradability: Sodium selenate: Biodegradation in water: not biodegradable

Bioaccumulative: Sodium selenate: Bioaccumulation
 BCF (aquatic species): 3650 dimensionless
 Bioaccumulative: Yes
 Daphnia magna
 Water flea BCF = 3650
 Fresh Water, 96 h, Renewal
 Conc = 0.89 - 0.99 ug/l

Mobility in soil: No information

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Section 13 – Disposal Considerations

Disposal: Preferably dispose of the product by use. Otherwise dispose of product and packaging at an approved landfill or other approved facility.
 Avoid contamination of any water source.
 Triple rinse container immediately after emptying and pour rinsate onto waste ground.
 Recycle via AGRECOVERY Rural Recycling Programme (see www.agrecovery.co.nz).
 Do NOT use container for any other purpose.

Section 14 – Transport Information

UN Number: 3082


UN Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (sodium selenate)

UN Dangerous Goods Class: 9

UN Packaging Group: III

Environmental Hazards: Yes

Special Precautions When Transporting The Substance: No information

UN Model Regulations Pictogram: 

Marine pollutant: YES

Section 15 – Regulatory Information

HSNO Approval Number: Veterinary Medicines Non dispersive Open System Application Group Standard 2020, HSR100759

ACVM Registration Number: A012120

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Section 16 – Other Information

Abbreviations:

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| CAS number: | Chemical Abstracts Service Registry Number |
| ACVM: | Agricultural Compounds and Veterinary Medicines |
| HSNO: | Hazardous Substances & New Organisms Act |
| EPA | Environmental Protection Authority |
| LD50: | Lethal Dose, 50% of test animals |
| LC50: | Lethal Concentration, 50% of test organisms |
| EC50: | Effective Concentration, 50% of its maximal effect |
| NOEC: | No Observed Effect Concentration |

References:

Toxicity information for ingredients has been obtained from the EPA Chemical Classification and Information Database (CCID).

The information in this MSDS is provided in good faith, but no warranty, expressed or implied is made. Contact Inovata Ltd for more information.

EMERGENCY CONTACT No.: 0800 764 766 (National Poisons Information Centre)

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