# SAFETY DATA SHEET

## Levamisole / Oxfendazole Selenised Formulation

| Version | Revision Date: | SDS Number: | Date of last issue: 03.07.2024 |
|---|---|---|---|
| 4.0 | 06.07.2024 | 10822937-00008 | Date of first issue: 28.07.2022 |

## SECTION 1: IDENTIFICATION

Product name : Levamisole / Oxfendazole Selenised Formulation

Other means of identification : Scanda Selenised (A007368)

**Manufacturer or supplier's details**

Company : Intervet Australia Pty Limited (trading as MSD Animal Health)

Address : 91-105 Harpin Street
Bendigo 3550, Victoria Austrailia

Telephone : 1 800 033 461

Emergency telephone number : Poisons Information Centre: Phone 13 11 26

E-mail address : EHSDATASTEWARD@msd.com

**Recommended use of the chemical and restrictions on use**

Recommended use : Veterinary product
Restrictions on use : Not applicable

## SECTION 2. HAZARDS IDENTIFICATION

**GHS Classification**

Acute toxicity (Oral) : Category 4

Reproductive toxicity : Category 1B

**GHS label elements**

Hazard pictograms :

Signal word : Danger

Hazard statements : H302 Harmful if swallowed.
H360FD May damage fertility. May damage the unborn child.

Precautionary statements :

**Prevention:**

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

**Storage:**

P405 Store locked up.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

**Other hazards which do not result in classification**

None known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

**Components**

| Chemical name | CAS-No. | Concentration (% w/w) |
|---|---|---|
| levamisole hydrochloride | 16595-80-5 | >= 3 -< 10 |
| oxfendazole | 53716-50-0 | >= 0.3 -< 10 |
| Polyethylene glycol stearate | 9004-99-3 | < 10 |
| Citric acid | 77-92-9 | < 10 |
| Cobalt disodium ethylenediaminetetraacetate | 15137-09-4 | < 1 |
| Sodium selenate | 13410-01-0 | < 1 |

## SECTION 4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

If inhaled : If inhaled, remove to fresh air.
Get medical attention.

In case of skin contact : In case of contact, immediately flush skin with soap and plenty of water.
Remove contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.

In case of eye contact : Flush eyes with water as a precaution.
Get medical attention if irritation develops and persists.

If swallowed : If swallowed, DO NOT induce vomiting.
Get medical attention.

| | | |
|---|---|---|
| | | Rinse mouth thoroughly with water.<br>Never give anything by mouth to an unconscious person. |
| Most important symptoms and effects, both acute and delayed | : | Harmful if swallowed.<br>May damage fertility. May damage the unborn child. |
| Protection of first-aiders | : | First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8). |
| Notes to physician | : | Treat symptomatically and supportively. |

## SECTION 5. FIREFIGHTING MEASURES

| | | |
|---|---|---|
| Suitable extinguishing media | : | Water spray<br>Alcohol-resistant foam<br>Carbon dioxide (CO2)<br>Dry chemical |
| Unsuitable extinguishing media | : | None known. |
| Specific hazards during firefighting | : | Exposure to combustion products may be a hazard to health. |
| Hazardous combustion products | : | Carbon oxides |
| Specific extinguishing methods | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.<br>Use water spray to cool unopened containers.<br>Remove undamaged containers from fire area if it is safe to do so.<br>Evacuate area. |
| Special protective equipment for firefighters | : | In the event of fire, wear self-contained breathing apparatus.<br>Use personal protective equipment. |
| Hazchem Code | : | •3Z |

## SECTION 6. ACCIDENTAL RELEASE MEASURES

| | | |
|---|---|---|
| Personal precautions, protective equipment and emergency procedures | : | Use personal protective equipment.<br>Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8). |
| Environmental precautions | : | Avoid release to the environment.<br>Prevent further leakage or spillage if safe to do so.<br>Prevent spreading over a wide area (e.g. by containment or oil barriers).<br>Retain and dispose of contaminated wash water.<br>Local authorities should be advised if significant spillages cannot be contained. |
| Methods and materials for containment and cleaning up | : | Soak up with inert absorbent material.<br>For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can |

be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

## SECTION 7. HANDLING AND STORAGE

| | | |
|---|---|---|
| Technical measures | : | See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section. |
| Local/Total ventilation | : | If sufficient ventilation is unavailable, use with local exhaust ventilation. |
| Advice on safe handling | : | Do not get on skin or clothing.<br>Do not breathe mist or vapours.<br>Do not swallow.<br>Avoid contact with eyes.<br>Wash skin thoroughly after handling.<br>Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment<br>Keep container tightly closed.<br>Do not eat, drink or smoke when using this product.<br>Take care to prevent spills, waste and minimize release to the environment. |
| Hygiene measures | : | If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.<br>When using do not eat, drink or smoke.<br>Wash contaminated clothing before re-use.<br>The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls. |
| Conditions for safe storage | : | Keep in properly labelled containers.<br>Store locked up.<br>Keep tightly closed.<br>Store in accordance with the particular national regulations. |
| Materials to avoid | : | Do not store with the following product types:<br>Strong oxidizing agents |

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Components with workplace control parameters**

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|---|---|---|---|---|
| levamisole hydrochloride | 16595-80-5 | TWA | 20 µg/m3 (OEB 3) | Internal |
| | Further information: Skin | | | |
| | | Wipe limit | 200 µg/100 cm² | Internal |
| oxfendazole | 53716-50-0 | TWA | 40 µg/m3 (OEB 3) | Internal |
| | | Wipe limit | 400 µg/100 cm² | Internal |
| Polyethylene glycol stearate | 9004-99-3 | TWA | 10 mg/m3 | AU OEL |
| | | TWA (Inhalable particulate matter) | 10 mg/m3 | ACGIH |
| | | TWA (Respirable particulate matter) | 3 mg/m3 | ACGIH |
| Sodium selenate | 13410-01-0 | TWA | 0.1 mg/m3 (selenium) | AU OEL |
| | | TWA | 20 µg/m3 (OEB 3) | Internal |
| | | Wipe limit | 200 µg/100 cm² | Internal |
| | | TWA | 0.2 mg/m3 (selenium) | ACGIH |

**Engineering measures** : Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., dripless quick connections).
All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.
Containment technologies suitable for controlling compounds are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., open-face containment devices).
Minimize open handling.

**Personal protective equipment**

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type : Particulates type

Hand protection

Material : Chemical-resistant gloves

Remarks : Consider double gloving.

Eye protection : Wear safety glasses with side shields or goggles.
If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.
Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or

| | | |
|---|---|---|
| | | aerosols. |
| Skin and body protection | : | Work uniform or laboratory coat.<br>Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.<br>Use appropriate degowning techniques to remove potentially contaminated clothing. |

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| Appearance | : | suspension |
| Colour | : | No data available |
| Odour | : | No data available |
| Odour Threshold | : | No data available |
| pH | : | No data available |
| Melting point/freezing point | : | No data available |
| Initial boiling point and boiling range | : | No data available |
| Flash point | : | No data available |
| Evaporation rate | : | No data available |
| Flammability (solid, gas) | : | Not applicable |
| Flammability (liquids) | : | No data available |
| Upper explosion limit / Upper flammability limit | : | No data available |
| Lower explosion limit / Lower flammability limit | : | No data available |
| Vapour pressure | : | No data available |
| Relative vapour density | : | No data available |
| Relative density | : | No data available |
| Density | : | No data available |
| Solubility(ies) | | |
| Water solubility | : | No data available |
| Partition coefficient: n- | : | Not applicable |

| | | |
|---|---|---|
| octanol/water | | |
| Auto-ignition temperature | : | No data available |
| Decomposition temperature | : | No data available |
| Viscosity | | |
| Viscosity, kinematic | : | No data available |
| Explosive properties | : | Not explosive |
| Oxidizing properties | : | The substance or mixture is not classified as oxidizing. |
| Molecular weight | : | No data available |
| Particle characteristics | | |
| Particle size | : | Not applicable |

## SECTION 10. STABILITY AND REACTIVITY

| | | |
|---|---|---|
| Reactivity | : | Not classified as a reactivity hazard. |
| Chemical stability | : | Stable under normal conditions. |
| Possibility of hazardous reactions | : | Can react with strong oxidizing agents. |
| Conditions to avoid | : | None known. |
| Incompatible materials | : | Oxidizing agents |
| Hazardous decomposition products | : | No hazardous decomposition products are known. |

## SECTION 11. TOXICOLOGICAL INFORMATION

Exposure routes : Inhalation
Skin contact
Ingestion
Eye contact

**Acute toxicity**

Harmful if swallowed.

**Product:**

| | | |
|---|---|---|
| Acute oral toxicity | : | Acute toxicity estimate: 1,082 mg/kg<br>Method: Calculation method |
| Acute inhalation toxicity | : | Acute toxicity estimate: > 5 mg/l<br>Exposure time: 4 h<br>Test atmosphere: dust/mist<br>Method: Calculation method |

**Components:**

**levamisole hydrochloride:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): 180 mg/kg<br>LD50 (Mouse): 223 mg/kg<br>LD50 (Rabbit): 458 mg/kg |
| Acute inhalation toxicity | : | Remarks: No data available |
| Acute dermal toxicity | : | Remarks: No data available |

**oxfendazole:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): > 6,000 mg/kg<br>LD50 (Dog): 1,600 mg/kg<br>LD50 (sheep): 250 mg/kg |

**Polyethylene glycol stearate:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): > 5,000 mg/kg |

**Citric acid:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Mouse): 5,400 mg/kg |
| Acute dermal toxicity | : | LD50 (Rat): > 2,000 mg/kg<br>Method: OECD Test Guideline 402<br>Assessment: The substance or mixture has no acute dermal toxicity |

**Cobalt disodium ethylenediaminetetraacetate:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): > 2,000 mg/kg<br>Remarks: Based on data from similar materials |

**Sodium selenate:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): > 5 - 50 mg/kg<br>Remarks: Based on data from similar materials |
| Acute inhalation toxicity | : | LC50 (Rat): > 0.052 - 0.51 mg/l<br>Exposure time: 4 h<br>Test atmosphere: dust/mist<br>Method: OECD Test Guideline 403 |

**Skin corrosion/irritation**

Not classified based on available information.

**Components:**

**levamisole hydrochloride:**

Remarks : No data available

**oxfendazole:**

Species : Rabbit
Result : No skin irritation

**Polyethylene glycol stearate:**

Species : Rabbit
Method : Draize Test
Result : No skin irritation

**Citric acid:**

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

**Cobalt disodium ethylenediaminetetraacetate:**

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation
Remarks : Based on data from similar materials

**Sodium selenate:**

Species : reconstructed human epidermis (RhE)
Method : OECD Test Guideline 431

Species : reconstructed human epidermis (RhE)
Method : OECD Test Guideline 439

Result : Skin irritation

**Serious eye damage/eye irritation**

Not classified based on available information.

**Components:**

**levamisole hydrochloride:**

Remarks : No data available

**oxfendazole:**

Species : Rabbit
Result : No eye irritation

**Polyethylene glycol stearate:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Result | : | No eye irritation |
| Method | : | Draize Test |

**Citric acid:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Result | : | Irritation to eyes, reversing within 21 days |
| Method | : | OECD Test Guideline 405 |

**Cobalt disodium ethylenediaminetetraacetate:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Result | : | No eye irritation |
| Remarks | : | Based on data from similar materials |

**Sodium selenate:**

| | | |
|---|---|---|
| Species | : | Bovine cornea |
| Method | : | OECD Test Guideline 437 |
| Result | : | No eye irritation |

**Respiratory or skin sensitisation**

**Skin sensitisation**

Not classified based on available information.

**Respiratory sensitisation**

Not classified based on available information.

**Components:**

**levamisole hydrochloride:**

| | | |
|---|---|---|
| Remarks | : | No data available |

**Polyethylene glycol stearate:**

| | | |
|---|---|---|
| Test Type | : | Open epicutaneous test |
| Exposure routes | : | Skin contact |
| Species | : | Guinea pig |
| Result | : | negative |

**Cobalt disodium ethylenediaminetetraacetate:**

| | | |
|---|---|---|
| Exposure routes | : | inhalation (dust/mist/fume) |
| Species | : | Humans |
| Result | : | positive |
| Remarks | : | Based on data from similar materials |

Assessment : Probability or evidence of low to moderate respiratory sensitisation rate in humans

**Chronic toxicity**

**Germ cell mutagenicity**

Not classified based on available information.

**Components:**

**levamisole hydrochloride:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

**oxfendazole:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Mouse
Application Route: Oral
Result: positive

**Polyethylene glycol stearate:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

**Citric acid:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: in vitro micronucleus test
Result: positive

Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Rat
Application Route: Ingestion
Result: negative

**Cobalt disodium ethylenediaminetetraacetate:**

| | | |
|---|---|---|
| Genotoxicity in vitro | : | Test Type: Bacterial reverse mutation assay (AMES)<br>Method: OECD Test Guideline 471<br>Result: negative<br>Remarks: Based on data from similar materials<br><br>Test Type: In vitro mammalian cell gene mutation test<br>Method: OECD Test Guideline 476<br>Result: positive<br>Remarks: Based on data from similar materials<br><br>Test Type: Chromosome aberration test in vitro<br>Method: OECD Test Guideline 473<br>Result: positive<br>Remarks: Based on data from similar materials |
| Genotoxicity in vivo | : | Test Type: Micronucleus test<br>Species: Mouse<br>Application Route: Intraperitoneal injection<br>Result: positive<br>Remarks: Based on data from similar materials<br><br>Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)<br>Species: Mouse<br>Application Route: Ingestion<br>Result: positive<br>Remarks: Based on data from similar materials<br><br>Test Type: Rodent dominant lethal test (germ cell) (in vivo)<br>Species: Mouse<br>Application Route: Ingestion<br>Result: positive<br>Remarks: Based on data from similar materials |
| Germ cell mutagenicity - Assessment | : | Positive result(s) from in vivo mammalian somatic cell mutagenicity tests.<br>Remarks: Based on data from similar materials |

**Sodium selenate:**

| | | |
|---|---|---|
| Genotoxicity in vitro | : | Test Type: Bacterial reverse mutation assay (AMES)<br>Method: OECD Test Guideline 471<br>Result: negative<br>Remarks: Based on data from similar materials |

**Carcinogenicity**

Not classified based on available information.

**Components:**

**levamisole hydrochloride:**

| | | |
|---|---|---|
| Species | : | Mouse |
| Application Route | : | Oral |
| Exposure time | : | 2 Years |
| NOAEL | : | 80 mg/kg body weight |
| Remarks | : | No significant adverse effects were reported |

| | | |
|---|---|---|
| Species | : | Rat |
| Application Route | : | Oral |
| Exposure time | : | 2 Years |
| NOAEL | : | 40 mg/kg body weight |
| Remarks | : | No significant adverse effects were reported |

**oxfendazole:**

| | | |
|---|---|---|
| Species | : | Rat |
| Application Route | : | Oral |
| Exposure time | : | 1 Years |
| Symptoms | : | No adverse effects |
| Target Organs | : | Liver |

| | | |
|---|---|---|
| Species | : | Rat |
| Application Route | : | Oral |
| Exposure time | : | 2 Years |
| Symptoms | : | No adverse effects |
| Target Organs | : | Liver |

**Cobalt disodium ethylenediaminetetraacetate:**

| | | |
|---|---|---|
| Species | : | Rat |
| Application Route | : | inhalation (dust/mist/fume) |
| Exposure time | : | 105 weeks |
| Result | : | positive |
| Remarks | : | Based on data from similar materials |

| | | |
|---|---|---|
| Species | : | Mouse |
| Application Route | : | inhalation (dust/mist/fume) |
| Exposure time | : | 105 weeks |
| Result | : | positive |
| Remarks | : | Based on data from similar materials |

| | | |
|---|---|---|
| Carcinogenicity - Assessment | : | Limited evidence of carcinogenicity in animal studies<br>Remarks: Based on data from similar materials |

**Reproductive toxicity**

May damage fertility. May damage the unborn child.

**Components:**

**levamisole hydrochloride:**

| | | |
|---|---|---|
| Effects on fertility | : | Test Type: Three-generation reproduction toxicity study<br>Species: Rat<br>Application Route: Oral<br>Result: No significant adverse effects were reported |
| Effects on foetal development | : | Test Type: Embryo-foetal development<br>Species: Rat<br>Application Route: Oral<br>Developmental Toxicity: NOAEL: 20 mg/kg body weight<br>Result: Fetotoxicity<br><br>Test Type: Embryo-foetal development<br>Species: Rabbit<br>Application Route: Oral<br>Developmental Toxicity: LOAEL: 40 mg/kg body weight<br>Result: Fetotoxicity |
| Reproductive toxicity - Assessment | : | Some evidence of adverse effects on development, based on animal experiments. |

**oxfendazole:**

| | | |
|---|---|---|
| Effects on fertility | : | Test Type: Fertility/early embryonic development<br>Species: Rat, male<br>Application Route: Oral<br>Fertility: NOAEL: 17 mg/kg body weight<br>Target Organs: Testes<br>Result: Effects on fertility<br><br>Test Type: Two-generation reproduction toxicity study<br>Species: Rat<br>Application Route: Oral<br>Fertility: NOAEL: 0.9 mg/kg body weight<br>Target Organs: Liver<br>Result: No effects on fertility<br><br>Test Type: Fertility<br>Species: Mouse<br>Application Route: Oral<br>Duration of Single Treatment: 1 Months<br>Fertility: NOAEL: 750 mg/kg body weight<br>Target Organs: Testes<br>Result: Effects on fertility |
| Effects on foetal development | : | Test Type: Embryo-foetal development<br>Species: Rat<br>Application Route: Oral<br>Developmental Toxicity: NOAEL: 10 mg/kg body weight |

Result: positive, Fetal effects

Test Type: Embryo-foetal development
Species: Rat
Developmental Toxicity: NOAEL: 10 mg/kg body weight
Result: positive, Embryo-foetal toxicity

Test Type: Embryo-foetal development
Species: Mouse
Application Route: Oral
Developmental Toxicity: NOAEL: 108 mg/kg body weight
Result: positive, Embryo-foetal toxicity, foetal abnormalities

Test Type: Embryo-foetal development
Species: Rabbit
Application Route: Oral
Developmental Toxicity: NOAEL: 0.625 mg/kg body weight

Reproductive toxicity - Assessment : Clear evidence of adverse effects on sexual function and fertility, based on animal experiments., Clear evidence of adverse effects on development, based on animal experiments.

**Citric acid:**

Effects on foetal development : Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative

**Cobalt disodium ethylenediaminetetraacetate:**

Effects on fertility : Test Type: Fertility/early embryonic development
Species: Rat
Application Route: Ingestion
Result: positive
Remarks: Based on data from similar materials

Test Type: Fertility/early embryonic development
Species: Mouse
Application Route: Ingestion
Result: positive
Remarks: Based on data from similar materials

Test Type: Fertility/early embryonic development
Species: Mouse
Application Route: inhalation (dust/mist/fume)
Result: positive
Remarks: Based on data from similar materials

Test Type: Fertility/early embryonic development
Species: Rat

Application Route: inhalation (dust/mist/fume)
Result: positive
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: negative
Remarks: Based on data from similar materials

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, based on animal experiments.
Remarks: Based on data from similar materials

**Sodium selenate:**

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development
Species: Mouse
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

**STOT - single exposure**

Not classified based on available information.

**Components:**

**Citric acid:**

Assessment : May cause respiratory irritation.

**STOT - repeated exposure**

Not classified based on available information.

**Components:**

**levamisole hydrochloride:**

Target Organs : Blood, Testis
Assessment : May cause damage to organs through prolonged or repeated exposure.

**oxfendazole:**

Exposure routes : Oral
Target Organs : Liver, Testis

| | | |
|---|---|---|
| Assessment | : | May cause damage to organs through prolonged or repeated exposure. |

**Cobalt disodium ethylenediaminetetraacetate:**

| | | |
|---|---|---|
| Exposure routes | : | inhalation (dust/mist/fume) |
| Target Organs | : | Respiratory Tract |
| Assessment | : | Shown to produce significant health effects in animals at concentrations of 0.02 mg/l/6h/d or less. |
| Remarks | : | Based on data from similar materials |
| | | |
| Exposure routes | : | Ingestion |
| Target Organs | : | Thyroid, Heart, Blood |
| Assessment | : | Shown to produce significant health effects in animals at concentrations of >10 to 100 mg/kg bw. |
| Remarks | : | Based on data from similar materials |

**Sodium selenate:**

| | | |
|---|---|---|
| Exposure routes | : | Ingestion |
| Assessment | : | Shown to produce significant health effects in animals at concentrations of 10 mg/kg bw or less. |

**Repeated dose toxicity**

**Components:**

**levamisole hydrochloride:**

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | 2.5 mg/kg |
| Application Route | : | Oral |
| Exposure time | : | 18 Months |
| Target Organs | : | Testis |
| | | |
| Species | : | Dog |
| LOAEL | : | 20 mg/kg |
| Application Route | : | Oral |
| Exposure time | : | 18 Months |
| Target Organs | : | Blood |
| | | |
| Species | : | Dog |
| LOAEL | : | 40 mg/kg |
| Application Route | : | Oral |
| Exposure time | : | 3 Months |

**oxfendazole:**

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | 11 mg/kg |
| Application Route | : | Oral |
| Exposure time | : | 2 Weeks |

| | | |
|---|---|---|
| Target Organs | : | Blood, Liver, Testis |
| Species | : | Rat |
| NOAEL | : | 3.8 mg/kg |
| Application Route | : | Oral |
| Exposure time | : | 3 Months |
| Target Organs | : | Liver, Testis |
| Species | : | Mouse |
| NOAEL | : | 750 mg/kg |
| Application Route | : | Oral |
| Exposure time | : | 1 Months |
| Target Organs | : | Liver |
| Species | : | Mouse |
| NOAEL | : | 37.5 mg/kg |
| Application Route | : | Oral |
| Exposure time | : | 3 Months |
| Target Organs | : | Liver |
| Species | : | Dog |
| NOAEL | : | 6 mg/kg |
| Application Route | : | Oral |
| Exposure time | : | 1 Months |
| Remarks | : | No significant adverse effects were reported |
| Species | : | Dog |
| NOAEL | : | 11 mg/kg |
| Application Route | : | Oral |
| Exposure time | : | 2 Weeks |
| Target Organs | : | Lymph nodes, thymus gland |
| Species | : | Dog |
| NOAEL | : | 13.5 mg/kg |
| Application Route | : | Oral |
| Exposure time | : | 12 Months |
| Target Organs | : | Liver |

**Citric acid:**

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | 4,000 mg/kg |
| LOAEL | : | 8,000 mg/kg |
| Application Route | : | Ingestion |
| Exposure time | : | 10 Days |

**Cobalt disodium ethylenediaminetetraacetate:**

| | | |
|---|---|---|
| Species | : | Rat |
| LOAEL | : | > 10 mg/kg |
| Application Route | : | Ingestion |

| | | |
|---|---|---|
| Exposure time | : | 90 Days |
| Remarks | : | Based on data from similar materials |

| | | |
|---|---|---|
| Species | : | Rat |
| LOAEL | : | < 0.01 mg/l |
| Application Route | : | inhalation (dust/mist/fume) |
| Exposure time | : | 13 Weeks |
| Method | : | OECD Test Guideline 413 |
| Remarks | : | Based on data from similar materials |

| | | |
|---|---|---|
| Species | : | Mouse |
| LOAEL | : | < 0.01 mg/l |
| Application Route | : | inhalation (dust/mist/fume) |
| Exposure time | : | 13 Weeks |
| Method | : | OECD Test Guideline 413 |
| Remarks | : | Based on data from similar materials |

**Sodium selenate:**

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | 0.4 mg/kg |
| Application Route | : | Ingestion |
| Exposure time | : | 13 Weeks |

**Aspiration toxicity**

Not classified based on available information.

**Experience with human exposure**

**Components:**

**levamisole hydrochloride:**

| | | |
|---|---|---|
| Ingestion | : | Symptoms: Nausea, Vomiting, Headache, Dizziness, hypotension |

**Cobalt disodium ethylenediaminetetraacetate:**

| | | |
|---|---|---|
| Inhalation | : | Target Organs: Respiratory system<br>Remarks: Based on data from similar materials |
| Ingestion | : | Target Organs: Blood<br>Remarks: Based on data from similar materials<br>Target Organs: Heart<br>Target Organs: Thyroid |

## SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

**Components:**

**levamisole hydrochloride:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Oryzias latipes (Japanese medaka)): 37.3 mg/l |

Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 64 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

**oxfendazole:**

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): > 2.7 mg/l
Exposure time: 96 h

LC50 (Oncorhynchus mykiss (rainbow trout)): > 2.5 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.059 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 4 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): > 4 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.023 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211

**Polyethylene glycol stearate:**

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): > 10,000 mg/l
Exposure time: 96 h
Method: DIN 38412

Toxicity to microorganisms : EC10 (Bacteria): > 10,000 mg/l
Exposure time: 16 h

**Citric acid:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1,535 mg/l
Exposure time: 24 h

**Cobalt disodium ethylenediaminetetraacetate:**

| | | |
|---|---|---|
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): > 100 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202<br>Remarks: Based on data from similar materials |
| Toxicity to algae/aquatic plants | : | ErC50 (Raphidocelis subcapitata (freshwater green alga)): > 100 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201<br>Remarks: Based on data from similar materials |
| Toxicity to fish (Chronic toxicity) | : | EC10 (Danio rerio (zebra fish)): > 1 mg/l<br>Exposure time: 34 d<br>Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | EC10 (Hyalella azteca (Amphipod)): > 0.01 - 0.1 mg/l<br>Exposure time: 28 d<br>Method: OECD Test Guideline 211<br>Remarks: Based on data from similar materials |

**Sodium selenate:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Pimephales promelas (fathead minnow)): > 1 - 10 mg/l<br>Exposure time: 96 h<br>Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): > 1 - 10 mg/l<br>Exposure time: 48 h<br>Remarks: Based on data from similar materials |
| Toxicity to algae/aquatic plants | : | ErC50 (Chlamydomonas reinhardtii (green algae)): 245 µg/l<br>Exposure time: 96 h<br><br>NOEC (Chlamydomonas reinhardtii (green algae)): 197 µg/l<br>Exposure time: 96 h |
| Toxicity to fish (Chronic toxicity) | : | NOEC (Lepomis macrochirus (Bluegill sunfish)): > 0.01 - 0.1 mg/l<br>Exposure time: 258 d<br>Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC: > 0.1 - 1 mg/l<br>Exposure time: 28 d<br>Remarks: Based on data from similar materials |
| Toxicity to microorganisms | : | EC10 (activated sludge): 590 mg/l<br>Exposure time: 3 h<br>Method: OECD Test Guideline 209 |

**Persistence and degradability**

**Components:**

**oxfendazole:**

Stability in water : Hydrolysis: < 5 %(4 d)

**Polyethylene glycol stearate:**

Biodegradability : Result: Readily biodegradable.
Biodegradation: > 70 %
Exposure time: 10 d
Method: OECD Test Guideline 302B

**Citric acid:**

Biodegradability : Result: Readily biodegradable.
Biodegradation: 97 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

**Bioaccumulative potential**

**Components:**

**oxfendazole:**

Partition coefficient: n-octanol/water : log Pow: 1.95

**Citric acid:**

Partition coefficient: n-octanol/water : log Pow: -1.72

**Cobalt disodium ethylenediaminetetraacetate:**

Partition coefficient: n-octanol/water : log Pow: -3.86
Remarks: Calculation

**Mobility in soil**

**Components:**

**oxfendazole:**

Distribution among environmental compartments : log Koc: 3.2

**Other adverse effects**

No data available

## SECTION 13. DISPOSAL CONSIDERATIONS

**Disposal methods**

| | | |
|---|---|---|
| Waste from residues | : | Do not dispose of waste into sewer.<br>Dispose of in accordance with local regulations. |
| Contaminated packaging | : | Empty containers should be taken to an approved waste handling site for recycling or disposal.<br>If not otherwise specified: Dispose of as unused product. |

## SECTION 14. TRANSPORT INFORMATION

**International Regulations**

**UNRTDG**

| | | |
|---|---|---|
| UN number | : | UN 3082 |
| Proper shipping name | : | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.<br>(oxfendazole, Cobalt disodium ethylenediaminetetraacetate) |
| Class | : | 9 |
| Packing group | : | III |
| Labels | : | 9 |
| Environmentally hazardous | : | yes |

**IATA-DGR**

| | | |
|---|---|---|
| UN/ID No. | : | UN 3082 |
| Proper shipping name | : | Environmentally hazardous substance, liquid, n.o.s.<br>(oxfendazole, Cobalt disodium ethylenediaminetetraacetate) |
| Class | : | 9 |
| Packing group | : | III |
| Labels | : | Miscellaneous |
| Packing instruction (cargo aircraft) | : | 964 |
| Packing instruction (passenger aircraft) | : | 964 |
| Environmentally hazardous | : | yes |

**IMDG-Code**

| | | |
|---|---|---|
| UN number | : | UN 3082 |
| Proper shipping name | : | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.<br>(oxfendazole, Cobalt disodium ethylenediaminetetraacetate) |
| Class | : | 9 |
| Packing group | : | III |
| Labels | : | 9 |
| EmS Code | : | F-A, S-F |
| Marine pollutant | : | yes |

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

**National Regulations**

**ADG**

| | | |
|---|---|---|
| UN number | : | UN 3082 |
| Proper shipping name | : | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.<br>(oxfendazole, Cobalt disodium ethylenediaminetetraacetate) |
| Class | : | 9 |
| Packing group | : | III |
| Labels | : | 9 |
| Hazchem Code | : | •3Z |
| Environmentally hazardous | : | yes |

**Special precautions for user**

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

## SECTION 15. REGULATORY INFORMATION

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

| | | |
|---|---|---|
| Therapeutic Goods (Poisons Standard) Instrument | : | Schedule 5 (Please use the original publication to check for specific uses, specific conditions or threshold limits that might apply for this chemical) |
| Prohibition/Licensing Requirements | : | Cobalt disodium ethylenediaminetetraacetate<br>Refer to model WHS Act and Regulations for prohibition, authorisation and restricted use. |

**The components of this product are reported in the following inventories:**

| | | |
|---|---|---|
| AICS | : | not determined |
| DSL | : | not determined |
| IECSC | : | not determined |

## SECTION 16: ANY OTHER RELEVANT INFORMATION

**Further information**

| | | |
|---|---|---|
| Revision Date | : | 06.07.2024 |
| Sources of key data used to compile the Safety Data Sheet | : | Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/ |

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

| | | |
|---|---|---|
| Date format | : | dd.mm.yyyy |

**Full text of other abbreviations**

| | | |
|---|---|---|
| ACGIH | : | USA. ACGIH Threshold Limit Values (TLV) |
| AU OEL | : | Australia. Workplace Exposure Standards for Airborne Contaminants. |
| ACGIH / TWA | : | 8-hour, time-weighted average |
| AU OEL / TWA | : | Exposure standard - time weighted average |

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.