

## Levamisole / Oxfendazole Selenised Formulation

Version Revision Date: SDS Number: Date of last issue: 08.12.2023 4.1 13.12.2023 10822932-00006 Date of first issue: 28.07.2022

**Section 1: Identification** 

Levamisole / Oxfendazole Selenised Formulation Product name

Other means of identification: Scanda Selenised (A007368)

Manufacturer or supplier's details

Company MSD

Address 33 Whakatiki Street - Private Bag 908

Upper Hutt - New Zealand

0800 800 543 Telephone

0800 764 766 (0800 POISON) Emergency telephone number: 0800 243 622 (0800

CHEMCALL)

E-mail address EHSDATASTEWARD@msd.com

Recommended use of the chemical and restrictions on use

Recommended use Veterinary product Not applicable Restrictions on use

#### Section 2: Hazard identification

**GHS Classification** 

Acute toxicity (Oral) Category 4

Respiratory sensitisation Category 1

Skin sensitisation Category 1

Carcinogenicity Category 2

Reproductive toxicity Category 1

Category 2 (Liver, Testis) Specific target organ toxicity - :

repeated exposure

Category 2 (Blood, Testis)

Specific target organ toxicity - :

repeated exposure (Oral)

Hazardous to the aquatic environment - acute hazard

Category 1



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Hazardous to the aquatic environment - chronic hazard Category 2

**GHS** label elements

Hazard pictograms







Signal word Danger

H302 Harmful if swallowed. Hazard statements

H317 May cause an allergic skin reaction.

H334 May cause allergy or asthma symptoms or breathing

difficulties if inhaled.

H351 Suspected of causing cancer.

H360FD May damage fertility. May damage the unborn child. H373 May cause damage to organs (Liver, Testis) through

prolonged or repeated exposure.

H373 May cause damage to organs (Blood, Testis) through

prolonged or repeated exposure if swallowed.

H400 Very toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

#### **Prevention:**

P201 Obtain special instructions before use.

P260 Do not breathe mist or vapours.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product. P272 Contaminated work clothing should not be allowed out of

the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/ eye protec-

tion/ face protection.

P284 Wear respiratory protection.

#### Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON

CENTER/ doctor if you feel unwell. Rinse mouth.

P302 + P352 IF ON SKIN: Wash with plenty of water.

P304 + P340 IF INHALED: Remove person to fresh air and

keep comfortable for breathing.

P308 + P313 IF exposed or concerned: Get medical advice/

attention.

P333 + P313 If skin irritation or rash occurs: Get medical ad-

vice/ attention.

P342 + P311 If experiencing respiratory symptoms: Call a

POISON CENTER doctor.

P391 Collect spillage.

#### Storage:



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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	>= 2.5 -< 10
oxfendazole	53716-50-0	>= 2.5 -< 10
Polyethylene glycol stearate	9004-99-3	>= 1 -< 10
Citric acid	77-92-9	>= 1 -< 10
Silicon, amorphous	112945-52-5	>= 1 -< 10
Cobalt disodium ethylenediaminetetraacetate	15137-09-4	>= 0.25 -< 1
Sodium selenate	13410-01-0	>= 0.1 -< 0.25
Sodium metabisulphite	7681-57-4	>= 0.1 -< 1

#### Section 4: First-aid measures

General advice In the case of accident or if you feel unwell, seek medical ad-

vice immediately.

When symptoms persist or in all cases of doubt seek medical

advice.

If inhaled, remove to fresh air. If inhaled

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. Flush eyes with water as a precaution.

Get medical attention if irritation develops and persists.

If swallowed, DO NOT induce vomiting. If swallowed

Get medical attention.

Harmful if swallowed.

Rinse mouth thoroughly with water.

Never give anything by mouth to an unconscious person.

Most important symptoms

and effects, both acute and

In case of eye contact

May cause an allergic skin reaction.

May cause allergy or asthma symptoms or breathing difficuldelayed

ties if inhaled.



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Suspected of causing cancer.

May damage fertility. May damage the unborn child.

May cause damage to organs through prolonged or repeated

exposure.

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: Fire-fighting measures

Suitable extinguishing media: Water spray

Alcohol-resistant foam Carbon dioxide (CO2)

Dry chemical

Unsuitable extinguishing

media

None known.

Specific hazards during fire- :

fiahtina

Exposure to combustion products may be a hazard to health.

Hazardous combustion prod-:

ucts

Carbon oxides

Specific extinguishing meth-:

ods

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment. Use water spray to cool unopened containers.

Remove undamaged containers from fire area if it is safe to do

SO.

Evacuate area.

Special protective equipment:

for firefighters

In the event of fire, wear self-contained breathing apparatus.

Use personal protective equipment.

Hazchem Code : 3Z

Section 6: Accidental release measures

Personal precautions, protective equipment and emer-

gency procedures

Use personal protective equipment.

Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

Environmental precautions : Avoid release to the environment.

Prevent further leakage or spillage if safe to do so.

Prevent spreading over a wide area (e.g. by containment or oil

barriers).

Retain and dispose of contaminated wash water.

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.

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 absor-



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bent.

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 deter-

mine 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.

Do not breathe mist or vapours.

Do not swallow.

Avoid contact with eyes.

Wash skin thoroughly after handling.

Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure as-

sessment

Keep container tightly closed.

Do not eat, drink or smoke when using this product.

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.

When using do not eat, drink or smoke.

Wash contaminated clothing before re-use.

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.

Store locked up. Keep tightly closed.

Store in accordance with the particular national regulations.

Materials to avoid : Do not store with the following product types:

Strong oxidizing agents

#### Section 8: Exposure controls/personal protection

#### Components with workplace control parameters

Components	CAS-No.	Value type	Control parame-	Basis
		(Form of	ters / Permissible	



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		exposure)	concentration		
levamisole hydrochloride	16595-80-5	TWA	20 μg/m3 (OEB 3)	Internal	
	Further information: Skin				
		Wipe limit	200 μg/100 cm <sup>2</sup>	Internal	
oxfendazole	53716-50-0	TWA	40 μg/m3 (OEB 3)	Internal	
		Wipe limit	400 μg/100 cm <sup>2</sup>	Internal	
Polyethylene glycol stearate	9004-99-3	WES-TWA	10 mg/m3	NZ OEL	
		TWA (Inhal- able particu- late matter)	10 mg/m3	ACGIH	
		TWA (Res- pirable par- ticulate mat- ter)	3 mg/m3	ACGIH	
Silicon, amorphous	112945-52-5	WES-TWA	10 mg/m3	NZ OEL	
Sodium selenate	13410-01-0	WES-TWA	0.1 mg/m3 (selenium)	NZ OEL	
		TWA	20 μg/m3 (OEB 3)	Internal	
		Wipe limit	200 μg/100 cm <sup>2</sup>	Internal	
		TWA	0.2 mg/m3 (selenium)	ACGIH	
Sodium metabisulphite	7681-57-4	WES-TWA	5 mg/m3	NZ OEL	
	Further information: Skin sensitiser, Respiratory sensitiser				
		TWA	5 mg/m3	ACGIH	

**Engineering measures** 

Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., drip-

less 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 con-

tainment devices). Minimize open handling.

Personal protective equipment

Respiratory protection : If adequate local exhaust ventilation is not available or expo-

sure assessment demonstrates exposures outside the rec-

ommended guidelines, use respiratory protection.

Filter type Hand protection Particulates type

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.



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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.

Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, dis-

posable suits) to avoid exposed skin surfaces.

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



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Partition coefficient: n-

octanol/water

: Not applicable

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 size : Not applicable

#### Section 10: Stability and reactivity

Reactivity : Not classified as a reactivity hazard. Chemical stability : Stable under normal conditions.

Possibility of hazardous reac- :

tions

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

Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 5 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist Method: Calculation method



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**Components:** 

levamisole hydrochloride:

Acute oral toxicity : LD50 (Rat): 180 mg/kg

LD50 (Mouse): 223 mg/kg

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

LD50 (Dog): 1,600 mg/kg

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

Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity

Silicon, amorphous:

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

Method: OECD Test Guideline 401

Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 2.08 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

Remarks: Based on data from similar materials

Cobalt disodium ethylenediaminetetraacetate:



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Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg

Remarks: Based on data from similar materials

Sodium selenate:

Acute oral toxicity : LD50 (Rat): > 5 - 50 mg/kg

Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 0.052 - 0.51 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist Method: OECD Test Guideline 403

Sodium metabisulphite:

Acute oral toxicity : LD50 (Rat): 1,540 mg/kg

Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 5.5 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Method: OECD Test Guideline 402

Remarks: Based on data from similar materials

#### 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



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Silicon, amorphous:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

Remarks : Based on data from similar materials

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

Sodium metabisulphite:

Result : Skin irritation

Remarks : Based on national or regional regulation.

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



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Silicon, amorphous:

Species : Rabbit

Result : No eye irritation

Method : OECD Test Guideline 405

Remarks : Based on data from similar materials

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

Sodium metabisulphite:

Species : Rabbit

Result : Irreversible effects on the eye Method : OECD Test Guideline 405

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**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



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Result : positive

Remarks : Based on data from similar materials

Assessment : Probability or evidence of low to moderate respiratory sensiti-

sation rate in humans

Sodium metabisulphite:

Assessment : Probability or evidence of skin sensitisation in humans

Remarks : Based on national or regional regulation.

Assessment : May cause sensitisation by inhalation. Remarks : Based on national or regional regulation.

**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



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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

Silicon, amorphous:

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

Method: OECD Test Guideline 471

Result: negative

Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow

cytogenetic test, chromosomal analysis)

Species: Rat

Application Route: Ingestion

Result: negative

Remarks: Based on data from similar materials

Cobalt disodium ethylenediaminetetraacetate:

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

Method: OECD Test Guideline 471

Result: negative

Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: positive

Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro

Method: OECD Test Guideline 473

Result: positive

Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Micronucleus test

Species: Mouse

Application Route: Intraperitoneal injection

Result: positive

Remarks: Based on data from similar materials

Test Type: Mutagenicity (in vivo mammalian bone-marrow

cytogenetic test, chromosomal analysis)

Species: Mouse

Application Route: Ingestion

Result: positive



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Remarks: Based on data from similar materials

Test Type: Rodent dominant lethal test (germ cell) (in vivo)

Species: Mouse

Application Route: Ingestion

Result: positive

Remarks: Based on data from similar materials

Germ cell mutagenicity -

Assessment

Positive result(s) from in vivo mammalian somatic cell muta-

genicity tests.

Remarks: Based on data from similar materials

Sodium selenate:

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

Method: OECD Test Guideline 471

Result: negative

Remarks: Based on data from similar materials

Sodium metabisulphite:

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

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo

cytogenetic assay) Species: Mouse

Application Route: Subcutaneous Method: OECD Test Guideline 474

Result: negative

Remarks: Based on data from similar materials

Carcinogenicity

Suspected of causing cancer.

**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



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Exposure time 2 Years

NOAEL 40 mg/kg body weight

Remarks No significant adverse effects were reported

oxfendazole:

**Species** Rat Oral **Application Route** Exposure time 1 Years

No adverse effects **Symptoms** 

**Target Organs** Liver

Species Rat Oral **Application Route** Exposure time 2 Years

**Symptoms** No adverse effects

**Target Organs** Liver

Silicon, amorphous:

Species Rat **Application Route** Ingestion Exposure time 103 weeks Result negative

Based on data from similar materials Remarks

Cobalt disodium ethylenediaminetetraacetate:

**Species** Rat

**Application Route** inhalation (dust/mist/fume)

Exposure time 105 weeks Result positive

Based on data from similar materials Remarks

Species Mouse

inhalation (dust/mist/fume) **Application Route** 

Exposure time 105 weeks Result positive

Based on data from similar materials Remarks

Limited evidence of carcinogenicity in animal studies

ment Remarks: Based on data from similar materials

Sodium metabisulphite:

Carcinogenicity - Assess-

Species Mouse **Application Route** Ingestion Exposure time 24 Months Result negative

Remarks Based on data from similar materials



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### Reproductive toxicity

May damage fertility. May damage the unborn child.

#### **Components:**

### levamisole hydrochloride:

Effects on fertility : Test Type: Three-generation reproduction toxicity study

Species: Rat

Application Route: Oral

Result: No significant adverse effects were reported

Effects on foetal develop-

ment

Test Type: Embryo-foetal development

Species: Rat

Application Route: Oral

Developmental Toxicity: NOAEL: 20 mg/kg body weight

Result: Fetotoxicity

Test Type: Embryo-foetal development

Species: Rabbit Application Route: Oral

Developmental Toxicity: LOAEL: 40 mg/kg body weight

Result: Fetotoxicity

Reproductive toxicity - As- :

sessment

Some evidence of adverse effects on development, based on

animal experiments.

oxfendazole:

Effects on fertility : Test Type: Fertility/early embryonic development

Species: Rat, male Application Route: Oral

Fertility: NOAEL: 17 mg/kg body weight

Target Organs: Testes
Result: Effects on fertility

Test Type: Two-generation reproduction toxicity study

Species: Rat

Application Route: Oral

Fertility: NOAEL: 0.9 mg/kg body weight

Target Organs: Liver

Result: No effects on fertility

Test Type: Fertility Species: Mouse Application Route: Oral

Duration of Single Treatment: 1 Months Fertility: NOAEL: 750 mg/kg body weight

Target Organs: Testes
Result: Effects on fertility

Effects on foetal develop- : Test Type: Embryo-foetal development



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ment Species: Rat

Application Route: Oral

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 - As-

sessment

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 develop-

ment

Test Type: One-generation reproduction toxicity study

Species: Rat

Application Route: Ingestion

Result: negative

Silicon, amorphous:

Effects on foetal develop-

ment

Test Type: Embryo-foetal development

Species: Rat

**Application Route: Ingestion** 

Result: negative

Remarks: Based on data from similar materials

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



## Levamisole / Oxfendazole Selenised Formulation

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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 develop-

ment

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 - As-

sessment

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 develop-

ment

Test Type: Embryo-foetal development

Species: Mouse

Application Route: Ingestion

Result: negative

Remarks: Based on data from similar materials

Sodium metabisulphite:

Effects on fertility : Test Type: Three-generation study

Species: Rat

Application Route: Ingestion

Result: negative

Effects on foetal develop-

ment

Test Type: Embryo-foetal development

Species: Rabbit

Application Route: Ingestion

Result: negative



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#### STOT - single exposure

Not classified based on available information.

#### **Components:**

Citric acid:

Assessment : May cause respiratory irritation.

#### STOT - repeated exposure

May cause damage to organs (Liver, Testis) through prolonged or repeated exposure. May cause damage to organs (Blood, Testis) through prolonged or repeated exposure if swallowed.

### **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 con-

centrations 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 con-

centrations 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 con-

centrations of 10 mg/kg bw or less.



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### 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



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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

Silicon, amorphous:

Species : Rat NOAEL : 1.3 mg/l

Application Route : inhalation (dust/mist/fume)

Exposure time : 13 Weeks

Remarks : Based on data from similar materials

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



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Sodium selenate:

Species Rat NOAEL 0.4 mg/kg Ingestion **Application Route** Exposure time 13 Weeks

Sodium metabisulphite:

Species Rat

NOAEL 110 mg/kg LOAEL 220 mg/kg **Application Route** Ingestion 104 Weeks Exposure time

Aspiration toxicity

Not classified based on available information.

**Experience with human exposure** 

**Components:** 

levamisole hydrochloride:

Ingestion Symptoms: Nausea, Vomiting, Headache, Dizziness, hypo-

tension

Cobalt disodium ethylenediaminetetraacetate:

Inhalation Target Organs: Respiratory system

Remarks: Based on data from similar materials

Ingestion Target Organs: Blood

Remarks: Based on data from similar materials

Target Organs: Heart 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:

EC50 (Daphnia magna (Water flea)): 64 mg/l aquatic invertebrates Exposure time: 48 h

Method: OECD Test Guideline 202

oxfendazole:



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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

10

Exposure time: 72 h

Method: OECD Test Guideline 201

M-Factor (Acute aquatic tox-:

icity)

Toxicity to daphnia and other:

aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 0.023 mg/l

Exposure time: 21 d

Method: OECD Test Guideline 211

M-Factor (Chronic aquatic

toxicity)

: 1

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

Silicon, amorphous:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 10,000 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Remarks: Based on data from similar materials



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Toxicity to daphnia and other:

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 1,000 mg/l

Exposure time: 24 h

Method: OECD Test Guideline 202

Remarks: Based on data from similar materials

Toxicity to algae/aquatic

plants

EC50 (Desmodesmus subspicatus (green algae)): > 10,000

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

NOEC (Desmodesmus subspicatus (green algae)): 10,000

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

### Cobalt disodium ethylenediaminetetraacetate:

Toxicity to daphnia and other:

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 100 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Remarks: Based on data from similar materials

Toxicity to algae/aquatic

plants

ErC50 (Raphidocelis subcapitata (freshwater green alga)): >

100 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

Toxicity to fish (Chronic tox-:

icity)

EC10 (Danio rerio (zebra fish)): > 1 mg/l

Exposure time: 34 d

Remarks: Based on data from similar materials

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

EC10 (Hyalella azteca (Amphipod)): > 0.01 - 0.1 mg/l

Exposure time: 28 d

Method: OECD Test Guideline 211

Remarks: Based on data from similar materials

M-Factor (Chronic aquatic

toxicity)

: 1

Sodium selenate:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 1 - 10 mg/l

Exposure time: 96 h

Remarks: Based on data from similar materials

Toxicity to daphnia and other:

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 1 - 10 mg/l

Exposure time: 48 h

Remarks: Based on data from similar materials



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Toxicity to algae/aquatic

plants

ErC50 (Chlamydomonas reinhardtii (green algae)): 245 μg/l

Exposure time: 96 h

NOEC (Chlamydomonas reinhardtii (green algae)): 197 µg/l

Exposure time: 96 h

M-Factor (Acute aquatic tox-:

icity)

Toxicity to fish (Chronic tox-:

icity)

NOEC (Lepomis macrochirus (Bluegill sunfish)): > 0.01 - 0.1

mg/l

1

Exposure time: 258 d

Remarks: Based on data from similar materials

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

NOEC: > 0.1 - 1 mg/l Exposure time: 28 d

Remarks: Based on data from similar materials

M-Factor (Chronic aquatic

toxicity)

Toxicity to microorganisms

EC10 (activated sludge): 590 mg/l

Exposure time: 3 h

Method: OECD Test Guideline 209

Sodium metabisulphite:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 178 mg/l

Exposure time: 96 h

Toxicity to daphnia and other:

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 89 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

ErC50 (Desmodesmus subspicatus (green algae)): 43.8 mg/l

Exposure time: 72 h

EC10 (Desmodesmus subspicatus (green algae)): 33.3 mg/l

Exposure time: 72 h

Toxicity to fish (Chronic tox-:

icity)

NOEC (Danio rerio (zebra fish)): >= 316 mg/l

Exposure time: 34 d

Method: OECD Test Guideline 210

Remarks: Based on data from similar materials

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): >= 10 mg/l

Exposure time: 21 d

Toxicity to microorganisms : EC10 (Pseudomonas putida): 30.8 mg/l

Exposure time: 17 h



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### 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-

: log Pow: 1.95

octanol/water

Citric acid: Partition coefficient: n-

octanol/water

log Pow: -1.72

Cobalt disodium ethylenediaminetetraacetate:

Partition coefficient: nlog Pow: -3.86

Remarks: Calculation octanol/water

Mobility in soil

**Components:** 

oxfendazole:

Distribution among environ- : log Koc: 3.2

mental compartments

Other adverse effects

No data available



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#### Section 13: Disposal considerations

**Disposal methods** 

Waste from residues : Do not dispose of waste into sewer.

Dispose of in accordance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste han-

dling site for recycling or disposal.

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.

(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.

(oxfendazole, Cobalt disodium ethylenediaminetetraacetate)

Class : 9 Packing group : III

Labels : Miscellaneous

Packing instruction (cargo : 964

aircraft)

Packing instruction (passen-: 964

ger aircraft)

ger allcrart)

Environmentally hazardous

yes

IMDG-Code

UN number : UN 3082

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(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**



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NZS 5433

**UN** number UN 3082

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, Proper shipping name

N.O.S.

(oxfendazole, Cobalt disodium ethylenediaminetetraacetate)

Class 9 Ш Packing group 9 Labels 3Z Hazchem Code Marine pollutant no

### 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

#### **HSNO Approval Number**

HSR100758 Veterinary Medicines Non dispersive Closed System Application Group Standard

#### **HSW Controls**

Certified handler certificate not required.

Tracking hazardous substance not required.

Refer to the Health and Safety at Work (Hazardous Substances) Regulations 2017, for further information.

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

**AICS** not determined

DSL not determined

**IECSC** not determined

### Section 16: Other information

**Revision Date** 13.12.2023

**Further information** 

Sources of key data used to : Internal technical data, data from raw material SDSs, OECD compile the Safety Data

eChem Portal search results and European Chemicals Agen-

Sheet

cy, http://echa.europa.eu/

Date format dd.mm.yyyy

#### Full text of other abbreviations



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ACGIH : USA. ACGIH Threshold Limit Values (TLV)

NZ OEL : New Zealand. Workplace Exposure Standards for Atmospher-

ic Contaminants

ACGIH / TWA : 8-hour, time-weighted average

NZ OEL / WES-TWA : Workplace Exposure Standard - Time Weighted average

AllC - 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.

NZ / EN