

ZORVEC ENDAVIA™ OD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	03.06.2022	800080000198	Date of first issue: 03.06.2022

Corteva Agriscience™ encourages you and expects you to read and understand the entire SDS as there is important information throughout the document. This SDS provides users with information relating to the protection of human health and safety at the workplace, protection of the environment and supports emergency response. Product users and applicators should primarily refer to the product label attached to or accompanying the product container. This Safety Data Sheet adheres to the standards and regulatory requirements of Israel and may not meet the regulatory requirements in other countries.

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

Trade name : ZORVEC ENDAVIA™ OD

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Sub-
stance/Mixture : Fungicide

1.3 Details of the supplier of the safety data sheet**COMPANY IDENTIFICATION**

Corteva Agriscience International S.a.r.l.
Route de Suisse 160
CH-1290 Versoix
Switzerland

Customer Information : +41 22 717 51 11

Number

E-mail address : SDS@corteva.com

1.4 Emergency telephone number

+32 3 575 55 55

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Skin sensitisation, Category 1

H317: May cause an allergic skin reaction.

Carcinogenicity, Category 2

H351: Suspected of causing cancer.

Long-term (chronic) aquatic hazard, Category 2

H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements**Labelling (REGULATION (EC) No 1272/2008)**

Hazard pictograms :



ZORVEC ENDAVIA™ OD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	03.06.2022	800080000198	Date of first issue: 03.06.2022

Signal word : Warning

Hazard statements : H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H411 Toxic to aquatic life with long lasting effects.

Supplemental Hazard Statements : EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P391 Collect spillage.

Disposal:
P501 Dispose of contents/container in accordance with applicable regulations.
SP 1 Do not contaminate water with the product or its container (Do not clean application equipment near surface water/Avoid contamination via drains from farmyards and roads).
SPe 3 To protect aquatic organisms respect an untreated-safety belt of 5 m from surface water bodies.
SPe 8 Dangerous to bees. To protect bees and other pollinating insects do not apply to crop plants when in flower. Do not use where bees are actively foraging. Do not apply when flowering weeds are present.

Hazardous components which must be listed on the label:

Benthiavalicarb-isopropyl

Additional Labelling

The following percentage of the mixture consists of ingredient(s) with unknown acute oral toxicity: 10 %

The following percentage of the mixture consists of ingredient(s) with unknown acute dermal toxicity: 10 %

The following percentage of the mixture consists of ingredient(s) with unknown acute inhalation toxicity: 10 %

The following percentage of the mixture consists of ingredient(s) with unknown hazards to the aquatic environment: 10 %

2.3 Other hazards

None known.

ZORVEC ENDAVIA™ OD

Version 1.0 Revision Date: 03.06.2022 SDS Number: 800080000198 Date of last issue: -
Date of first issue: 03.06.2022

SECTION 3: Composition/information on ingredients**3.2 Mixtures****Components**

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Benthiavalicarb-isopropyl	177406-68-7	Skin Sens. 1; H317 Carc. 2; H351 Aquatic Chronic 3; H412	7.6
oxathiapiprolin (ISO)	1003318-67-9 613-332-00-1	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Chronic aquatic toxicity): 1	3.2
Ethylhexanol	104-76-7 203-234-3 01-2119487289-20	Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory system)	>= 1 - < 3
Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt	Not Assigned 01-2119560592-37	Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 3; H412	>= 1 - < 2.5

For explanation of abbreviations see section 16.

SECTION 4: First aid measures**4.1 Description of first aid measures**

- General advice : Never give anything by mouth to an unconscious person.
- In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off immediately with soap and plenty of water.
In the case of skin irritation or allergic reactions see a physician.
Wash contaminated clothing before re-use.
- In case of eye contact : If easy to do, remove contact lens, if worn.
Hold eye open and rinse slowly and gently with water for 15-20 minutes.
If eye irritation persists, consult a specialist.
- If swallowed : Obtain medical attention.

ZORVEC ENDAVIA™ OD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	03.06.2022	800080000198	Date of first issue: 03.06.2022

DO NOT induce vomiting unless directed to do so by a physician or poison control center.
 If victim is conscious:
 Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : No cases of human intoxication are known and the symptoms of experimental intoxication are not known.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

Suitable extinguishing media : Water spray
 Alcohol-resistant foam

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Exposure to combustion products may be a hazard to health.

Hazardous combustion products : Nitrogen oxides (NO_x)
 Carbon oxides

5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

Specific extinguishing methods : Remove undamaged containers from fire area if it is safe to do so.
 Evacuate area.
 Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
 Use water spray to cool unopened containers.

Further information : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Personal precautions : Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

ZORVEC ENDAVIA[™] OD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	03.06.2022	800080000198	Date of first issue: 03.06.2022

6.2 Environmental precautions

Environmental precautions : Discharge into the environment must be avoided.
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.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : 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.
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped,
Recovered material should be stored in a vented container.
The vent must prevent the ingress of water as further reaction with spilled materials can take place which could lead to over-pressurization of the container.
Keep in suitable, closed containers for disposal.
Wipe up with absorbent material (e.g. cloth, fleece).
See Section 13, Disposal Considerations, for additional information.

6.4 Reference to other sections

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Advice on safe handling : Do not breathe vapours/dust.
Handle in accordance with good industrial hygiene and safety practice.
Smoking, eating and drinking should be prohibited in the application area.
Take care to prevent spills, waste and minimize release to the environment.
Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing. Keep working clothes separately. Contaminated work clothing should not be allowed out of the workplace. Wash hands and face before breaks and immediately after handling the product. When using do not eat, drink or smoke. Keep away from food, drink and animal feedingstuffs. Remove clothing/PPE immediately if material gets inside. For environmental protection remove and wash all contaminated protective equipment before re-use. Dispose of rinse water in accordance with local and national regulations.

ZORVEC ENDAVIA™ OD

Version 1.0 Revision Date: 03.06.2022 SDS Number: 800080000198 Date of last issue: -
Date of first issue: 03.06.2022

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage : Store in a closed container. Keep in properly labelled containers. Store in accordance with the particular national regulations.

Advice on common storage : Strong oxidizing agents

Packaging material : Unsuitable material: None known.

7.3 Specific end use(s)**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Occupational Exposure Limits**

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
White mineral oil (petroleum)	8042-47-5	TWA (Inhalable particulate matter)	5 mg/m ³	ACGIH
Ethylhexanol	104-76-7	TWA	1 ppm 5.4 mg/m ³	2017/164/EU
Further information: Indicative				
		TWA	2 ppm	Corteva OEL

Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
Benthiavalicarb-isopropyl	177406-68-7	cholinesterase (red blood cells): 80 % of an individual's baseline (Blood)		IL BEI
		cholinesterase (red blood cells): 70 % of an individual's baseline (Blood)		IL BEI

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Glycerides, mixed decanoyl and octanoyl	Workers	Inhalation	Long-term systemic effects	177.79 mg/m ³
	Workers	Skin contact	Long-term systemic effects	25.21 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	43.84 mg/m ³
	Consumers	Skin contact	Long-term systemic effects	12.61 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	12.61 mg/kg bw/day
Ethylhexanol	Workers	Inhalation	Long-term systemic	12.8 mg/m ³

SAFETY DATA SHEET



ZORVEC ENDAVIA™ OD

Version 1.0 Revision Date: 03.06.2022 SDS Number: 800080000198 Date of last issue: -
 Date of first issue: 03.06.2022

			effects	
	Workers	Inhalation	Long-term local effects	53.2 mg/m3
	Workers	Inhalation	Acute local effects	53.2 mg/m3
	Workers	Skin contact	Long-term systemic effects	23 mg/kg bw/day
	Workers	Inhalation	Acute local effects	106.4 mg/m3
	Consumers	Inhalation	Long-term systemic effects	2.3 mg/m3
	Consumers	Inhalation	Long-term local effects	26.6 mg/m3
	Consumers	Inhalation	Acute local effects	26.6 mg/m3
	Consumers	Skin contact	Long-term systemic effects	11.4 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	1.1 mg/kg bw/day
Propanediol	Workers	Inhalation	Long-term local effects	10 mg/m3
	Workers	Inhalation	Long-term systemic effects	168 mg/m3
	Consumers	Inhalation	Long-term local effects	10 mg/m3
	Consumers	Inhalation	Long-term systemic effects	50 mg/m3

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
Glycerides, mixed decanoyl and octanoyl	Oral (Secondary Poisoning)	0.03 mg/kg food
Ethylhexanol	Fresh water	0.017 mg/l
	Intermittent use/release	0.17 mg/l
	Marine water	0.002 mg/l
	Sewage treatment plant	10 mg/l
	Fresh water sediment	0.284 mg/kg dry weight (d.w.)
	Marine sediment	0.028 mg/kg dry weight (d.w.)
	Soil	0.047 mg/kg dry weight (d.w.)
	Oral (Secondary Poisoning)	55 mg/kg food
Propanediol	Fresh water	260 mg/l
	Marine water	26 mg/l
	Intermittent use/release	183 mg/l
	Sewage treatment plant	20000 mg/l
	Fresh water sediment	572 mg/kg
	Marine sediment	57.2 mg/kg
	Soil	50 mg/kg

8.2 Exposure controls

Engineering measures

Ensure adequate ventilation, especially in confined areas.
 Use sufficient ventilation to keep employee exposure below recommended limits.

Personal protective equipment

ZORVEC ENDAVIA™ OD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	03.06.2022	800080000198	Date of first issue: 03.06.2022

Eye protection : Safety glasses with side-shields conforming to EN166
Additionally wear a face shield where the possibility exists for face contact due to splashing, spraying or airborne contact with this material.

Hand protection

Remarks : The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The suitability for a specific workplace should be discussed with the producers of the protective gloves. The breakthrough time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. The exact breakthrough time can be obtained from the protective glove producer and this has to be observed. Gloves must be inspected prior to use. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Gauntlets of 35 cm long or longer shall be worn over the combination sleeve. Before removing gloves clean them with soap and water.

Skin and body protection : Manufacturing and processing work:
Full protective clothing Type 6 (EN 13034)
Spray application - outdoor:
Tractor / sprayer with hood:
No personal body protection normally required.
Tractor / sprayer without hood:
Full protective clothing Type 4 (EN 14605)
Nitrile rubber boots (EN 13832-3 / EN ISO 20345).
Backpack / knapsack sprayer:
Full protective clothing Type 4 (EN 14605)
Nitrile rubber boots (EN 13832-3 / EN ISO 20345).
When exceptional circumstances require an access to the treated area before the end of re-entry periods, wear full protective clothing Type 6(EN 13034), nitrile rubber gloves class 3 (EN 374) and nitrile rubber boots (EN 13832-3 / EN ISO 20345).
To optimize the ergonomics it may be recommended to use cotton underwear when wearing some fabrics. Take advice from supplier.
Garment materials that are resistant to both water vapour and air will maximise wearing comfort. Materials should be robust to maintain the integrity and barrier in use.
The permeation resistance of the fabric must be verified independently of the « type » protection recommended, to ensure an appropriate performance level of the material adequate to the corresponding agent and type of exposure.
Mixer and loaders must wear:
Full protective clothing Type 6 (EN 13034)
Rubber apron
Nitrile rubber boots (EN 13832-3 / EN ISO 20345).

ZORVEC ENDAVIA™ OD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	03.06.2022	800080000198	Date of first issue: 03.06.2022

Respiratory protection : Manufacturing and processing work:
Half mask with vapour filter A1 (EN 141)

Protective measures : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
All chemical protective clothing should be visually inspected prior to use. Clothing and gloves should be replaced in case of chemical or physical damage or if contaminated.
Only protected handlers may be in the area during application.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Appearance	: liquid
Colour	: off-white
Odour	: none
Odour Threshold	: not determined
pH	: No data available
Melting point/range	: No data available
Boiling point/boiling range	: > 100 °C
Flash point	: > 200 °C Method: Regulation (EC) No. 440/2008, Annex, A.9, closed cup
Evaporation rate	: 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	: 0.85 - 0.95
Density	: No data available
Solubility(ies)	
Water solubility	: dispersible
Partition coefficient: n-octanol/water	: Not applicable
Auto-ignition temperature	: 239 °C Method: Regulation (EC) No. 440/2008, Annex, A.15
Viscosity	
Viscosity, dynamic	: No data available

ZORVEC ENDAVIA™ OD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	03.06.2022	800080000198	Date of first issue: 03.06.2022

Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive Method: Regulation (EC) No. 440/2008, Annex, A.14
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

9.2 Other information

Surface tension	:	No data available
Self-ignition	:	No data available

SECTION 10: Stability and reactivity**10.1 Reactivity**

Not classified as a reactivity hazard.

10.2 Chemical stability

No decomposition if stored and applied as directed.
Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions	:	Stable under recommended storage conditions. No hazards to be specially mentioned. None known.
---------------------	---	--

10.4 Conditions to avoid

Conditions to avoid	:	None known.
---------------------	---	-------------

10.5 Incompatible materials

Materials to avoid	:	Strong acids Strong bases
--------------------	---	------------------------------

10.6 Hazardous decomposition products

Carbon oxides

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity****Components:****Benthiavdicarb-isopropyl:**

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 401 Assessment: The substance or mixture has no acute oral toxicity
---------------------	---	---

ZORVEC ENDAVIA™ OD

Version 1.0 Revision Date: 03.06.2022 SDS Number: 800080000198 Date of last issue: -
Date of first issue: 03.06.2022

Acute inhalation toxicity : LC50 (Rat): > 4.6 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

oxathiapiprolin (ISO):

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat): > 5.1 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

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

Ethylhexanol:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Target Organs: Central nervous system

Acute inhalation toxicity : LC50 (Rat): 2.17 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

LC50 (Rat): 1.5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 3,000 mg/kg
Method: OECD Test Guideline 402

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Acute oral toxicity : LD50 (Rat, female): 4,445 mg/kg

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation**Product:**

Species : EpiDerm™ skin model
Exposure time : 1 h
Method : OECD Test Guideline 439

ZORVEC ENDAVIA[™] OD

Version 1.0 Revision Date: 03.06.2022 SDS Number: 800080000198 Date of last issue: -
Date of first issue: 03.06.2022

Result : No skin irritation

Components:**Benthiavalicarb-isopropyl:**

Species : Rabbit
Result : No skin irritation

oxathiapiprolin (ISO):

Species : Rabbit
Result : No skin irritation

Ethylhexanol:

Species : Rabbit
Result : Skin irritation

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Species : Rabbit
Result : Skin irritation

Serious eye damage/eye irritation**Product:**

Species : Bovine cornea
Exposure time : 0.5 h
Result : No eye irritation

Components:**Benthiavalicarb-isopropyl:**

Species : Rabbit
Method : OECD Test Guideline 405
Result : No eye irritation

oxathiapiprolin (ISO):

Species : Rabbit
Result : No eye irritation

Ethylhexanol:

Species : Rabbit
Result : Eye irritation

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Species : Rabbit
Result : Corrosive

ZORVEC ENDAVIA™ OD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	03.06.2022	800080000198	Date of first issue: 03.06.2022

Respiratory or skin sensitisation**Components:****Benthiavalicarb-isopropyl:**

Species : Guinea pig
 Assessment : May cause sensitisation by skin contact.

oxathiapiprolin (ISO):

Test Type : Maximisation Test
 Species : Guinea pig
 Result : Does not cause skin sensitisation.

Ethylhexanol:

Test Type : HRIPT (human repeat insult patch test)
 Species : human
 Assessment : Does not cause skin sensitisation.

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Species : Guinea pig
 Assessment : Does not cause skin sensitisation.

Germ cell mutagenicity**Components:****Benthiavalicarb-isopropyl:**

Germ cell mutagenicity- Assessment : In vitro genetic toxicity studies were negative.

oxathiapiprolin (ISO):

Germ cell mutagenicity- Assessment : Animal genetic toxicity studies were negative.

Ethylhexanol:

Germ cell mutagenicity- Assessment : In vitro genetic toxicity studies were negative., Animal genetic toxicity studies were negative.

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Germ cell mutagenicity- Assessment : In vitro genetic toxicity studies were negative., Animal genetic toxicity studies were negative.

Carcinogenicity**Components:****Benthiavalicarb-isopropyl:**

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies
 Has caused cancer in laboratory animals.

ZORVEC ENDAVIA™ OD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	03.06.2022	800080000198	Date of first issue: 03.06.2022

oxathiapiprolin (ISO):

Carcinogenicity - Assessment : Did not cause cancer in laboratory animals.

Ethylhexanol:

Carcinogenicity - Assessment : In laboratory animals, evidence of carcinogenic activity was observed., There is no evidence that these findings are relevant to humans.

Reproductive toxicity**Components:****Benthiavalicarb-isopropyl:**

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction. Did not cause birth defects or any other fetal effects in laboratory animals.

oxathiapiprolin (ISO):

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction. Animal testing did not show any effects on foetal development.

Ethylhexanol:

Reproductive toxicity - Assessment : Has caused birth defects in laboratory animals only at doses toxic to the mother., Has been toxic to the fetus in laboratory animals at doses toxic to the mother., These concentrations exceed relevant human dose levels.

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction. Did not cause birth defects or any other fetal effects in laboratory animals.

STOT - single exposure**Product:**

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Components:**Benthiavalicarb-isopropyl:**

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

oxathiapiprolin (ISO):

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

ZORVEC ENDAVIA[™] OD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	03.06.2022	800080000198	Date of first issue: 03.06.2022

Ethylhexanol:

Exposure routes : Inhalation
Target Organs : Respiratory Tract
Assessment : May cause respiratory irritation.

STOT - repeated exposure**Components:****oxathiapiprolin (ISO):**

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity**Components:****oxathiapiprolin (ISO):**

Remarks : Based on available data, repeated exposures are not expected to cause significant adverse effects except at very high aerosol concentrations. Repeated excessive aerosol exposures may cause respiratory tract irritation and even death.

Ethylhexanol:

Remarks : In animals, effects have been reported on the following organs:
Blood.
Kidney.
Liver.
Spleen.

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Remarks : Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Aspiration toxicity**Product:**

Based on physical properties, not likely to be an aspiration hazard.

Components:**Benthiavalicarb-isopropyl:**

Based on physical properties, not likely to be an aspiration hazard.

oxathiapiprolin (ISO):

Based on available information, aspiration hazard could not be determined.

Ethylhexanol:

May be harmful if swallowed and enters airways.

ZORVEC ENDAVIA[™] OD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	03.06.2022	800080000198	Date of first issue: 03.06.2022

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Based on physical properties, not likely to be an aspiration hazard.

SECTION 12: Ecological information**12.1 Toxicity****Product:**

- | | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): 120 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203 |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 17 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202 |
| Toxicity to algae/aquatic plants | : | ErC50 (Raphidocelis subcapitata (freshwater green alga)): 120 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201 |
| Toxicity to terrestrial organisms | : | oral LD50: > 330.9 µg/bee
Species: Apis mellifera (bees)
Method: OECD Test Guideline 213

contact LD50: 459.5 µg/bee
Species: Apis mellifera (bees)
Method: OECD Test Guideline 213 |

Components:**Benthiavalicarb-isopropyl:**

- | | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): > 10 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203 |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): > 10 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202 |
| Toxicity to algae/aquatic plants | : | EC50 (Pseudokirchneriella subcapitata (algae)): > 10 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201 |
| Toxicity to fish (Chronic toxicity) | : | NOEC: > 10 mg/l
Exposure time: 28 d
Species: Oncorhynchus mykiss (rainbow trout) |

ZORVEC ENDAVIA™ OD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	03.06.2022	800080000198	Date of first issue: 03.06.2022

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: > 10 mg/l
 Exposure time: 21 d
 Species: Daphnia magna (Water flea)
 Method: OECD Test Guideline 211

oxathiapiprolin (ISO):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 0.69 mg/l
 Exposure time: 96 h
 Test Type: Static

LC50 (Lepomis macrochirus (Bluegill sunfish)): > 0.74 mg/l
 Exposure time: 96 h
 Test Type: Static

LC50 (Cyprinodon variegatus (sheepshead minnow)): > 0.65 mg/l
 Exposure time: 96 h
 Test Type: static test
 Method: OPPTS 850.1075
 GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.67 mg/l
 Exposure time: 48 h
 Test Type: Static

Toxicity to algae/aquatic plants : ErC50 (Skeletonema costatum (marine diatom)): 0.351 mg/l
 Exposure time: 96 h

ErC50 (Pseudokirchneriella subcapitata (green algae)): 0.142 mg/l
 Exposure time: 96 h

Toxicity to fish (Chronic toxicity) : NOEC: 0.46 mg/l
 Exposure time: 88 d
 Species: Oncorhynchus mykiss (rainbow trout)

NOEC: 0.34 mg/l
 Exposure time: 35 d
 Species: Cyprinodon variegatus (sheepshead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.75 mg/l
 Exposure time: 21 d
 Species: Daphnia magna (Water flea)
 Test Type: semi-static test

NOEC: 0.058 mg/l
 Exposure time: 32 d
 Species: Americamysis bahia (mysid shrimp)
 Test Type: flow-through test

M-Factor (Chronic aquatic toxicity) : 1

Toxicity to terrestrial organisms : LD50: > 2,250 mg/kg
 Species: Colinus virginianus (Bobwhite quail)

ZORVEC ENDAVIA™ OD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	03.06.2022	800080000198	Date of first issue: 03.06.2022

Method: OPPTS 850.2100

LD50: > 2,250 mg/kg

Species: *Poephila guttata* (zebra finch)

Method: OPPTS 850.2100

dietary LC50: > 5,620 mg/kg

Exposure time: 5 d

Species: *Colinus virginianus* (Bobwhite quail)

Method: OECD Test Guideline 205

dietary LC50: > 5,620 mg/kg

Exposure time: 5 d

Species: *Anas platyrhynchos* (Mallard duck)

Method: OECD Test Guideline 205

Ethylhexanol:

Toxicity to fish : LC50 (*Oncorhynchus mykiss* (rainbow trout)): 32 - 37 mg/l
Exposure time: 96 h

LC50 (*Fathead minnow* (*Pimephales promelas*)): 28.2 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : LC50 (*Daphnia magna* (Water flea)): 35.2 mg/l
Exposure time: 48 h

Method: OECD Test Guideline 202

EC50 (*Daphnia magna* (Water flea)): 39 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202 or Equivalent

Toxicity to algae/aquatic plants : ErC50 (*Pseudokirchneriella subcapitata* (green algae)): 11.5 mg/l

End point: Growth rate inhibition

Exposure time: 72 h

Method: OECD Test Guideline 201 or Equivalent

Toxicity to microorganisms : EC50 (Bacteria): 256 - 320 mg/l
Exposure time: 16 h

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Toxicity to fish : LC50 (Fish): > 1 - 10 mg/l

Exposure time: 96 h

Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): 2.9 mg/l
Exposure time: 48 h

Test Type: static test

Toxicity to algae/aquatic plants : EC50 (Algae): 29 mg/l

Exposure time: 96 h

Test Type: static test

ZORVEC ENDAVIA™ OD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	03.06.2022	800080000198	Date of first issue: 03.06.2022

Toxicity to microorganisms	:	EC50 (Bacteria): 550 mg/l Exposure time: 3 h
Toxicity to fish (Chronic toxicity)	:	NOEC: 0.23 mg/l Exposure time: 72 d Species: Fish Test Type: flow-through test
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 1.18 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: flow-through test

12.2 Persistence and degradability**Product:**

Biodegradability : Remarks: Not readily biodegradable.

Components:**Benthiavalicarb-isopropyl:**

Biodegradability : Result: Not biodegradable

oxathiapiprolin (ISO):

Biodegradability : Result: Not readily biodegradable.

Ethylhexanol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: > 95 %
Exposure time: 5 d
Method: OECD Test Guideline 302B or Equivalent
Remarks: 10-day Window: Not applicable

Biodegradation: 68 %
Exposure time: 17 d
Method: OECD Test Guideline 301B or Equivalent
Remarks: 10-day Window: Pass

Photodegradation : Test Type: Half-life (indirect photolysis)
Sensitiser: OH radicals
Rate constant: 1.32E-11 cm³/s
Method: Estimated.

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 100 %
Exposure time: 28 d
Method: OECD Test Guideline 301B or Equivalent
Remarks: 10-day Window: Pass

ZORVEC ENDAVIA™ OD

Version 1.0 Revision Date: 03.06.2022 SDS Number: 800080000198 Date of last issue: -
Date of first issue: 03.06.2022

12.3 Bioaccumulative potential**Product:**

Bioaccumulation : Remarks: Does not bioaccumulate.

Components:**Benthiavalicarb-isopropyl:**

Partition coefficient: n-octanol/water : log Pow: 2.52 - 2.59
pH: 5 - 9

oxathiapiprolin (ISO):

Bioaccumulation : Bioconcentration factor (BCF): 62

Ethylhexanol:

Partition coefficient: n-octanol/water : log Pow: 3.1
Method: Measured
Remarks: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Bioaccumulation : Bioconcentration factor (BCF): 2 - 1,000

Partition coefficient: n-octanol/water : log Pow: 2.89
Remarks: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

12.4 Mobility in soil**Product:**

Distribution among environmental compartments : Remarks: Under actual use conditions the product has a low potential of mobility in soil.

Components:**Ethylhexanol:**

Distribution among environmental compartments : Koc: 800
Method: Estimated.
Remarks: Potential for mobility in soil is low (Koc between 500 and 2000).

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Distribution among environmental compartments : Remarks: No relevant data found.

12.5 Results of PBT and vPvB assessment**Components:****Benthiavalicarb-isopropyl:**

Assessment : This substance has not been assessed for persistence, bioac-

ZORVEC ENDAVIA™ OD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	03.06.2022	800080000198	Date of first issue: 03.06.2022

cumulation and toxicity (PBT).

Ethylhexanol:

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Other adverse effects**Product:**

Endocrine disrupting potential : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Components:**Benthiavalicarb-isopropyl:**

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Ethylhexanol:

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

Product : If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

ZORVEC ENDAVIA[™] OD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	03.06.2022	800080000198	Date of first issue: 03.06.2022

If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

SECTION 14: Transport information**14.1 UN number**

IMDG : UN 3082
IATA : UN 3082

14.2 UN proper shipping name

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Oxathiapiprolin)
IATA : Environmentally hazardous substance, liquid, n.o.s. (Oxathiapiprolin)

14.3 Transport hazard class(es)

IMDG : 9
IATA : 9

14.4 Packing group

IMDG
Packing group : III
Labels : 9
EmS Code : F-A, S-F
Remarks : Stowage category A

IATA (Cargo)

Packing instruction (cargo aircraft) : 964
Packing instruction (LQ) : Y964
Packing group : III
Labels : Miscellaneous

IATA (Passenger)

Packing instruction (passenger aircraft) : 964
Packing instruction (LQ) : Y964
Packing group : III
Labels : Miscellaneous

14.5 Environmental hazards

IMDG
Marine pollutant : yes

14.6 Special precautions for user

Marine Pollutants assigned UN number 3077 and 3082 in single or combination packaging containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 KG or less for solids may be transported as non-dangerous goods as provided in section 2.10.2.7 of IMDG code, IATA Special provision A197, and ADR/RID special provision 375.

ZORVEC ENDAVIA™ OD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	03.06.2022	800080000198	Date of first issue: 03.06.2022

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.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	E2	ENVIRONMENTAL HAZARDS
---	----	-----------------------

15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

The mixture is evaluated within the frame of the provisions of Regulation (EC) No. 1107/2009. Refer to the label for exposure assessment information.

SECTION 16: Other information**Information Source and References**

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

Full text of H-Statements

H315	: Causes skin irritation.
H317	: May cause an allergic skin reaction.
H318	: Causes serious eye damage.
H319	: Causes serious eye irritation.
H332	: Harmful if inhaled.
H335	: May cause respiratory irritation.
H351	: Suspected of causing cancer.
H400	: Very toxic to aquatic life.
H410	: Very toxic to aquatic life with long lasting effects.
H412	: Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Acute	: Short-term (acute) aquatic hazard
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Carc.	: Carcinogenicity
Eye Dam.	: Serious eye damage
Eye Irrit.	: Eye irritation
Skin Irrit.	: Skin irritation
Skin Sens.	: Skin sensitisation

SAFETY DATA SHEET



ZORVEC ENDAVIA™ OD

Version 1.0 Revision Date: 03.06.2022 SDS Number: 800080000198 Date of last issue: -
Date of first issue: 03.06.2022

STOT SE : Specific target organ toxicity - single exposure
2017/164/EU : Europe. Commission Directive 2017/164/EU establishing a fourth list of indicative occupational exposure limit values
ACGIH : USA. ACGIH Threshold Limit Values (TLV)
Corteva OEL : Corteva Occupational Exposure Limit
IL BEI : Israel. Safety at Work Regulations - Annex III Biological Exposure Indices
2017/164/EU / TWA : Limit Value - eight hours
ACGIH / TWA : 8-hour, time-weighted average
Corteva OEL / TWA : Time weighted average

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; 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

Classification of the mixture:

Skin Sens. 1 H317
Carc. 2 H351
Aquatic Chronic 2 H411

Classification procedure:

Calculation method
Calculation method
Calculation method

Product code: GF-3862

SAFETY DATA SHEET



ZORVEC ENDAVIA™ OD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	03.06.2022	800080000198	Date of first issue: 03.06.2022

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 given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

IL / 6N