SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006, Annex II and its amendments.

VERBEN

Version	Revision Date:	SDS Number:	Date of last issue: 16.06.2025
1.1	10.11.2025	800080102377	Date of first issue: 16.06.2025

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 Estonia 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 : VERBEN

Unique Formula Identifier (UFI) : 37RA-R00R-K00S-2NYS

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

Use of the Substance/Mixture : Fungicide

1.3 Details of the supplier of the safety data sheet

COMPANY IDENTIFICATION
Manufacturer/importer
Corteva Agriscience Denmark A/S
Langebrogade 3H
DK – 1411 Copenhagen K
DENMARK

Customer Information Number **:** +45 45 28 08 00
E-mail address **:** SDS@corteva.com

Distributor / Supplier
Corteva Agriscience Denmark A/S consultant Eestis: Tel. +372 5855 7473, www.corteva.ee

1.4 Emergency telephone number

+372 880 7977

Estonian emergency number 112 - Estonian Poison Information Center 16662 (24h) / outside Estonia call: +372 7943 794

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Eye irritation, Category 2	H319: Causes serious eye irritation.
Skin sensitisation, Sub-category 1B	H317: May cause an allergic skin reaction.
Carcinogenicity, Category 2	H351: Suspected of causing cancer.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Warning

Hazard statements :

H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H351	Suspected of causing cancer.
H410	Very toxic to aquatic life with long lasting effects.

Supplemental Hazard Statements :

SP1	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)
SPe3	To protect aquatic organisms, respect an unsprayed buffer zone of 10m to surface water bodies.

Precautionary statements :

Prevention:

P202	Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing mist/vapours/spray.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

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

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.

Hazardous components which must be listed on the label:

Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)-
Proquinazid

Additional Labelling

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

The following percentage of the mixture consists of ingredient(s) with unknown hazards to the aquatic environment: 2 %

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: 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.

Toxicological information: 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.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. REACH Registration number	Classification	Concentration (% w/w)
Prothioconazole	178928-70-6 613-337-00-9	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 ——————— M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 1	18,9

Proquinazid	189278-12-4 616-211-00-1	Carc. 2; H351 STOT RE 1; H372 (Thyroid, Liver) Aquatic Acute 1; H400 Aquatic Chronic 1; H410 _____ M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 10	4,73
Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)-	186817-80-1 01-2119516238-41-XXXX	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1B; H317	>= 40 - < 50
Polyethylene glycol mono(tristyrylphenyl)ether	99734-09-5	Aquatic Chronic 3; H412	>= 10 - < 20
N,N-Dimethyldecan-1-amide	14433-76-2 238-405-1 01-2119485027-36-XXXX	Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory system) Aquatic Chronic 3; H412	>= 10 - < 20

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.

If inhaled : Move to fresh air.
Artificial respiration and/or oxygen may be necessary.
Consult a physician after significant exposure.

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. 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. Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Nitrogen oxides (NOx) Carbon oxides Hydrogen chloride gas

5.3 Advice for firefighters

Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. 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	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

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

6.2 Environmental precautions

Environmental precautions : If the product contaminates rivers and lakes or drains inform respective authorities.
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.
Prevent from entering into soil, ditches, sewers,underwater.
See Section 12, Ecological Information.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Clean up remaining materials from spill with suitable absorbant.
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 overpressurization of the container.
Keep in suitable, closed containers for disposal.
Wipe up with absorbent material (e.g. cloth, fleece).
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
See Section 13, Disposal Considerations, for additional information.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not

be employed in any process in which this mixture is being used.
Do not breathe vapours/dust.
Do not smoke.
Handle in accordance with good industrial hygiene and safety practice.
Avoid exposure - obtain special instructions before use.
Smoking, eating and drinking should be prohibited in the application area.
Do not get on skin or clothing.
Avoid inhalation of vapour or mist.
Do not swallow.
Do not get in eyes.
Avoid contact with skin and eyes.
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.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in a closed container. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep in properly labelled containers. Store in accordance with the particular national regulations.

Advice on common storage : Do not store near acids.
Strong oxidizing agents

Packaging material : Unsuitable material: None known.

7.3 Specific end use(s)

Specific use(s) : Plant protection products subject to Regulation (EC) No 1107/2009.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Contains no substances with occupational exposure limit values.

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

Eye/face 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.

Skin and body protection : Use protective clothing chemically resistant to this material.
Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

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

Mixer and loaders must wear:
Half mask with vapour filter A1 (EN 141)

Spray application - outdoor:
Tractor / sprayer with hood:
No personal respiratory protective equipment normally required.

Tractor / sprayer without hood:
Half mask with a particle filter FFP1 (EN149)

Backpack / knapsack sprayer:
Half mask with a particle filter P1 (EN 143).

Mechanical automatized spray application in closed tunnel:
No personal respiratory protective equipment normally required.

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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	liquid
Form	:	liquid
Colour	:	clear, yellow
Odour	:	mild
Odour Threshold	:	not determined
Boiling point/boiling range	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Flash point	:	> 100 °C Method: ASTM D 93
Auto-ignition temperature	:	264 °C
pH	:	4,99 (21,1 °C) Concentration: 10 g/L Method: CIPAC MT 75.3
Viscosity		
Viscosity, dynamic	:	128,4 mPa.s (20 °C)
Viscosity, kinematic	:	No data available
Solubility(ies)		
Water solubility	:	emulsifiable

Partition coefficient: n-octanol/water	:	Not applicable
Vapour pressure	:	No data available
Density	:	1,056 g/cm3 (20 °C) Method: OECD Test Guideline 109
Relative vapour density	:	No data available

9.2 Other information

Explosives	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Surface tension	:	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.

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

Decomposition products depend upon temperature, air supply and the presence of other materials.
Decomposition products can include and are not limited to:
Carbon oxides

Nitrogen oxides (NOx)
Hydrogen chloride gas

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Product:

Acute oral toxicity : LD50 (Rat, female): > 2.000 - < 5.000 mg/kg
Method: OECD Test Guideline 425
Remarks: Information source: Internal study report

Acute inhalation toxicity : LC50 (Rat, male and female): > 5,3 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Remarks: Information source: Internal study report

Acute dermal toxicity : LD50 (Rat, female): > 2.000 mg/kg
Method: OECD Test Guideline 402
Remarks: Information source: Internal study report

Components:

Prothioconazole:

Acute oral toxicity : LD50 (Rat): > 6.200 mg/kg
Method: OPPTS 870.1100

Acute inhalation toxicity : LC50 (Rat): > 4,990 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Maximum achievable concentration.

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg
Method: OPPTS 870.1200
Assessment: The substance or mixture has no acute dermal toxicity

Proquinazid:

Acute oral toxicity : LD50 (Rat, male): > 5.000 mg/kg
Method: OECD Test Guideline 401

LD50 (Rat, female): 4.846 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat, male and female): > 5,2 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Method: OECD Test Guideline 403
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat): > 5.000 mg/kg
Method: OECD Test Guideline 402

Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)-:

Acute oral toxicity : LD50 (Rat, male and female): > 2.000 mg/kg
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : Remarks: Prolonged excessive exposure to mist may cause adverse effects.
Excessive exposure may cause irritation to upper respiratory tract (nose and throat).

LC50 (Rat, male and female): > 5,6 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Polyethylene glycol mono(tristyrylphenyl)ether:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg
Method: Estimated.
Remarks: Typical for this family of materials.

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg
Method: Estimated.
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Typical for this family of materials.

N,N-Dimethyldecan-1-amide:

Acute oral toxicity : LD50 (Rat, male and female): > 2.000 - 5.000 mg/kg
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat, male and female): > 3,551 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Maximum attainable concentration.

Acute dermal toxicity : LD50 (Rat): > 5.000 mg/kg

Skin corrosion/irritation

Product:

Species	:	Rabbit
Exposure time	:	72 h
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
Remarks	:	Information source: Internal study report

Components:

Prothioconazole:

Species	:	Rabbit
Result	:	No skin irritation

Proquinazid:

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

Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)-:

Result	:	Skin irritation

N,N-Dimethyldecan-1-amide:

Species	:	Rabbit
Result	:	Skin irritation

Serious eye damage/eye irritation

Product:

Species	:	Rabbit
Exposure time	:	72 h
Method	:	OECD Test Guideline 405
Result	:	Eye irritation
Remarks	:	Information source: Internal study report

Components:

Prothioconazole:

Species	:	Rabbit
Method	:	US EPA Test Guideline OPPTS 870.2400
Result	:	No eye irritation

Proquinazid:

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

Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)-:

Result : Eye irritation

N,N-Dimethyldecan-1-amide:

Species : Rabbit
Result : Eye irritation

Respiratory or skin sensitisation

Product:

Test Type : Local lymph node assay (LLNA)
Species : Mouse
Assessment : The product is a skin sensitiser, sub-category 1B.
Method : OECD Test Guideline 429
Remarks : Information source: Internal study report

Components:

Prothioconazole:

Species : Guinea pig
Method : US EPA Test Guideline OPPTS 870.2600
Result : Does not cause skin sensitisation.

Proquinazid:

Test Type : Maximisation Test
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Did not cause sensitisation on laboratory animals.

Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)-:

Species : Mouse
Result : The product is a skin sensitiser, sub-category 1B.

Polyethylene glycol mono(tristyrylphenyl)ether:

Species : Guinea pig
Result : Does not cause skin sensitisation.
Remarks : For similar material(s):

N,N-Dimethyldecan-1-amide:

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

Germ cell mutagenicity

Components:

Prothioconazole:

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

Proquinazid:

Germ cell mutagenicity- Assessment : In vitro genetic toxicity studies were negative., In vivo tests did not show mutagenic effects

Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)-:

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

Polyethylene glycol mono(tristyrylphenyl)ether:

Germ cell mutagenicity- Assessment : For the major component(s):, In vitro genetic toxicity studies were negative., Animal genetic toxicity studies were negative.

N,N-Dimethyldecan-1-amide:

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

Carcinogenicity

Components:

Prothioconazole:

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

Proquinazid:

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

Polyethylene glycol mono(tristyrylphenyl)ether:

Carcinogenicity - Assessment : For the major component(s):, Polyethylene glycols did not cause cancer in long-term animal studies.

Reproductive toxicity

Components:

Prothioconazole:

Reproductive toxicity - Assessment : In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.
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.

Proquinazid:

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

Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)-:

Reproductive toxicity - Assessment : Did not cause birth defects or any other fetal effects in laboratory animals.

Polyethylene glycol mono(tristyrylphenyl)ether:

Reproductive toxicity - Assessment : For the major component(s):, In animal studies, did not interfere with reproduction.
For the major component(s):, Did not cause birth defects or any other fetal effects in laboratory animals.

N,N-Dimethyldecan-1-amide:

Reproductive toxicity - Assessment : Did not cause birth defects in laboratory animals.

STOT - single exposure

Components:

Prothioconazole:

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

Proquinazid:

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

Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)-:

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

Polyethylene glycol mono(tristyrylphenyl)ether:

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

N,N-Dimethyldecan-1-amide:

Assessment : May cause respiratory irritation.

STOT - repeated exposure

Components:

Proquinazid:

Target Organs : Thyroid, Liver

Assessment : Causes damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

Prothioconazole:

Application Route : Ingestion
Method : OPPTS 870.4100
Remarks : In animals, effects have been reported on the following organs:
Kidney.
Liver.
Thyroid.
Bladder.

Proquinazid:

Species : Rat
Application Route : Diet
Remarks : In animals, effects have been reported on the following organs:
Liver effects
Kidney effects
Thyroid effects
Abnormal serum enzyme levels
Organ weight changes
altered hematology

Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)-:

Remarks : In animals, effects have been reported on the following organs after exposure to aerosols:
Respiratory tract.
Lung.

Polyethylene glycol mono(tristyrylphenyl)ether:

Remarks : Additives are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency.

N,N-Dimethyldecan-1-amide:

Remarks : For similar material(s):
In animals, effects have been reported on the following organs:
Eye.
Liver.
Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed.

Aspiration toxicity

Components:

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

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

Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)-:
May be harmful if swallowed and enters airways.

Polyethylene glycol mono(tristyrylphenyl)ether:
Based on physical properties, not likely to be an aspiration hazard.

N,N-Dimethyldecan-1-amide:
Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia.

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment	:	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.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 11 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)): 6,8 mg/l End point: Immobilization Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202
Toxicity to algae/aquatic	:	ErC50 (Navicula pelliculosa (Freshwater diatom)): 0,77 mg/l

plants
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to terrestrial organisms : LD50: > 824
Exposure time: 48 h
End point: Acute oral toxicity
Species: Apis mellifera (bees)
Method: OECD Test Guideline 213

LD50: 789
Exposure time: 48 h
End point: Acute contact toxicity
Species: Apis mellifera (bees)
Method: OECD Test Guideline 214

Components:

Prothioconazole:

Toxicity to fish : Remarks: Material is very toxic to aquatic organisms (LC50/EC50/IC50 below 1 mg/L in the most sensitive species).

LC50 (Rainbow trout (Oncorhynchus mykiss)): 1,83 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1,3 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 2,18 mg/l
End point: Growth rate inhibition
Exposure time: 72 h

ErC50 (Skeletonema costatum (marine diatom)): 0,046 mg/l
Exposure time: 72 h

M-Factor (Acute aquatic toxicity) : 10

Toxicity to fish (Chronic toxicity) : NOEC: 0,308 mg/l
Exposure time: 97 d
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,56 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic toxicity) : 1

Proquinazid:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0,349 mg/l

		Exposure time: 96 h Method: OECD Test Guideline 203 GLP: yes LC50 (Lepomis macrochirus (Bluegill sunfish)): 0,454 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 GLP: yes
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0,287 mg/l Exposure time: 48 h Test Type: flow-through test Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0,740 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 GLP: yes EC50 (Lemna gibba (duckweed)): > 0,2 mg/l End point: Frond Exposure time: 14 d Method: US EPA Test Guideline OPP 122-2 & 123-2
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to fish (Chronic toxicity)	:	NOEC: 0,0030 mg/l Exposure time: 90 d Species: Oncorhynchus mykiss (rainbow trout) Test Type: Early Life-Stage Method: OECD Test Guideline 210 GLP: yes
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0,0018 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 202 GLP: yes
M-Factor (Chronic aquatic toxicity)	:	10
Toxicity to soil dwelling organisms	:	LC50: > 1.000 mg/kg Exposure time: 14 d Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207 GLP:yes
Toxicity to terrestrial organisms	:	LD50: > 2.250 mg/kg Species: Colinus virginianus (Bobwhite quail)

Method: US EPA Test Guideline OPP 71-1
GLP:yes

LC50: > 5.620 mg/kg
Exposure time: 5 d
Species: Colinus virginianus (Bobwhite quail)
Method: OECD Test Guideline 205
GLP:yes

LC50: > 5.620 mg/kg
Exposure time: 5 d
Species: Anas platyrhynchos (Mallard duck)
Method: OECD Test Guideline 205
GLP:yes

oral LD50: > 0,125 mg/kg
Exposure time: 72 h
Species: Apis mellifera (bees)
Method: OEPP/EPPO Test Guideline 170
GLP:yes

contact LD50: > 0,197 mg/kg
Exposure time: 72 h
Species: Apis mellifera (bees)
Method: OEPP/EPPO Test Guideline 170
GLP:yes

Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)-:

Toxicity to fish : Remarks: Material is harmful to aquatic organisms (LC50/EC50/IC50 between 10 and 100 mg/L in the most sensitive species).

LC50 (Pimephales promelas (fathead minnow)): 32 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 83 mg/l
Exposure time: 48 h

Polyethylene glycol mono(tristyrylphenyl)ether:

Ecotoxicology Assessment

Acute aquatic toxicity : Harmful to aquatic life.

Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

N,N-Dimethyldecan-1-amide:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 14,8 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 7,7 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): 16,06 mg/l Exposure time: 72 h
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0,28 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)

12.2 Persistence and degradability

Components:

Prothioconazole:

Biodegradability	:	Result: Not biodegradable Remarks: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

Proquinazid:

Biodegradability	:	Result: Not biodegradable Biodegradation: 1 % Exposure time: 28 d
Stability in water	:	Test Type: Photolysis Degradation half life (DT50): 0,03 d

Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)-:

Biodegradability	:	Remarks: For similar material(s): Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Result: Readily biodegradable. Biodegradation: 86 % Exposure time: 20 d Method: OECD Test Guideline 301C or Equivalent Remarks: For similar material(s): 10-day Window: Pass

N,N-Dimethyldecan-1-amide:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 66,12 % Exposure time: 11 d Method: OECD Test Guideline 301B or Equivalent Remarks: 10-day Window: Pass Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

12.3 Bioaccumulative potential

Components:

Prothioconazole:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Bioconcentration factor (BCF): 19,7

Partition coefficient: n-octanol/water : log Pow: 3,82 (20 °C)
pH: 7
Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Proquinazid:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Bioconcentration factor (BCF): 821
Method: OECD Test Guideline 305
GLP: yes
Remarks: The substance has a high potential of bioaccumulation.

Partition coefficient: n-octanol/water : Remarks: No relevant data found.

Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)-:

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

Polyethylene glycol mono(tristyrylphenyl)ether:

Partition coefficient: n-octanol/water : Remarks: No relevant data found.

N,N-Dimethyldecan-1-amide:

Partition coefficient: n-octanol/water : log Pow: 3,44
Method: Estimated.
Remarks: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

12.4 Mobility in soil

Components:

Prothioconazole:

Distribution among environmental compartments : Koc: 1765
Remarks: Potential for mobility in soil is low (Koc between 500 and 2000).

Proquinazid:

Distribution among environmental compartments : Koc: 821
Remarks: The product is not expected to be mobile in soils.

Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)-:

Distribution among environmental compartments : Koc: 330
Remarks: Potential for mobility in soil is medium (Koc between 150 and 500).

N,N-Dimethyldecan-1-amide:

Distribution among environmental compartments : Koc: 351 - 630
Remarks: Potential for mobility in soil is medium (Koc between 150 and 500).

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment : 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.

No data available

12.7 Other adverse effects

Components:

Prothioconazole:

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

Proquinazid:

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

Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)-:

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

N,N-Dimethyldecan-1-amide:

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

SECTION 14: Transport information

14.1 UN number or ID number

ADR : UN 3082

RID : UN 3082

IMDG : UN 3082

IATA : UN 3082

14.2 UN proper shipping name

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Prothioconazole, Proquinazid)

RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Prothioconazole, Proquinazid)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Prothioconazole, Proquinazid)

IATA : Environmentally hazardous substance, liquid, n.o.s.
(Prothioconazole, Proquinazid)

14.3 Transport hazard class(es)

	Class	Subsidiary risks

ADR : 9

RID : 9

IMDG : 9

IATA : 9

14.4 Packing group

ADR

Packing group	:	III
Classification Code	:	M6
Hazard Identification Number	:	90
Labels	:	9
Tunnel restriction code	:	(-)

RID

Packing group	:	III
Classification Code	:	M6
Hazard Identification Number	:	90
Labels	:	9

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

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

IMDG

Marine pollutant : yes(Prothioconazole, Proquinazid)

14.6 Special precautions for user

Remarks : 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.

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 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	Not applicable
Regulation (EU) No 2024/590 on substances that deplete the ozone layer	:	Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	:	Not applicable
Regulation (EU) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals	:	Not applicable
REACH - List of substances subject to authorisation (Annex XIV)	:	Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	E1	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.
H319	:	Causes serious eye irritation.
H335	:	May cause respiratory irritation.
H351	:	Suspected of causing cancer.
H372	:	Causes damage to organs through prolonged or repeated exposure.
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

Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Carc.	:	Carcinogenicity
Eye Irrit.	:	Eye irritation
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation
STOT RE	:	Specific target organ toxicity - repeated exposure
STOT SE	:	Specific target organ toxicity - single exposure

ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; ASTM - American Society for the Testing of Materials; ECx - Concentration associated with x% response; EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; 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; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; 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; NOEC - Non-Observed Effective Concentration; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; (Q)SAR - (Quantitative) Structure Activity Relationship; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SDS - Safety Data Sheet; UN - United Nations.
EC-Number - European Community number REACH - Regulation (EC) No 1907/2006 of the European Parliament and of Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals.

Further information

Other information	:	Take notice of the directions of use on the label.

Classification of the mixture:		**Classification procedure:**
Eye Irrit. 2	H319	Calculation method

Skin Sens. 1B	H317	Based on product data or assessment
Carc. 2	H351	Calculation method
Aquatic Acute 1	H400	Based on product data or assessment
Aquatic Chronic 1	H410	Calculation method

Product code: WBN-2-2 (GF-3881)

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.

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