

SAFETY DATA SHEET

According to Commission Regulation (EU) 2020/878 of amending
Regulation (EC) No 1907/2006



JORDI®

Version	Revision Date:	SDS Number:	Date of last issue: -
5.0	04.04.2023	50002729	Date of first issue: 04.04.2023

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name JORDI®

Other means of identification

Product code 50002729

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

Use of the Sub- Fungicide
stance/Mixture

Recommended restrictions Use as recommended by the label.
on use

1.3 Details of the supplier of the safety data sheet

Supplier Address

Cheminova Deutschland GmbH & Co. KG
Stader Elbstrasse 26
21683 Stade
Germany

Telephone: +49 (0) 4141 9204 0
Telefax: +45 (0) 4141 9204 206
E-mail address: datenblatt@fmc.com, SDS-Info@fmc.com .

1.4 Emergency telephone number

For leak, fire, spill or accident emergencies, call:
Germany: +49-69643508409 (CHEMTREC)
0800-181-7059 (CHEMTREC)

Medical emergency:
Germany: +49 (0) 551 19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4 H302: Harmful if swallowed.

Acute toxicity, Category 4 H332: Harmful if inhaled.

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Serious eye damage, Category 1	H318: Causes serious eye damage.
Reproductive toxicity, Category 2	H361d: Suspected of damaging the unborn child.
Specific target organ toxicity - single exposure, Category 3, Respiratory system	H335: May cause respiratory irritation.
Specific target organ toxicity - repeated exposure, Category 2, Eyes	H373: May cause damage to organs through prolonged or repeated exposure.
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 : Danger

Hazard statements : H302 + H332 Harmful if swallowed or if inhaled.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H361d Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P260 Do not breathe mist or vapours.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P391 Collect spillage.

Disposal:

P501 Dispose of contents/container in accordance with local regulation.

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Hazardous components which must be listed on the label:

spiroxamine (ISO)
N,N-dimethyldecan-1-amide

Additional Labelling

EUH208 Contains spiroxamine (ISO). May produce an allergic reaction.

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

For special phrases (SP) and safety intervals, consult the label.

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. Registration number	Classification	Concentration (% w/w)
spiroxamine (ISO)	118134-30-8 612-150-00-X	Acute Tox. 4; H302 Acute Tox. 4; H312 Acute Tox. 4; H332 Skin Irrit. 2; H315 Acute Tox. 4; H312 Skin Sens. 1; H317 Acute Tox. 4; H332 Skin Irrit. 2; H315 Skin Sens. 1; H317 Repr. 2; H361d STOT RE 2; H373 (Eye) STOT RE 2; H373 (Eyes) Aquatic Acute 1; H400 Aquatic Chronic 1;	25,15

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		H410 M-Factor (Acute aquatic toxicity): 100 M-Factor (Chronic aquatic toxicity): 100	
prothioconazole (ISO)	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	10,06
Bixafen	581809-46-3	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	5,03
Oxirane, methyl-, polymer with oxirane, mono(2-ethylhexyl) ether	64366-70-7	Aquatic Chronic 3; H412	> 1 - < 25
N,N-dimethyldecan-1-amide	14433-76-2 238-405-1	Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory system) Aquatic Chronic 3; H412	>= 25

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.
- If inhaled : If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.
- In case of skin contact : If on clothes, remove clothes.

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If on skin, rinse well with water.
Wash off with soap and plenty of water.
Get medical attention if irritation develops and persists.

In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.
Do NOT induce vomiting.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.

4.2 Most important symptoms and effects, both acute and delayed

Risks : Harmful if swallowed or if inhaled.
Causes serious eye damage.
May cause respiratory irritation.
Suspected of damaging the unborn child.
May cause damage to organs through prolonged or repeated exposure.

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 : Dry chemical, CO₂, water spray or regular foam.

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Carbon oxides
Nitrogen oxides (NO_x)
Sulphur oxides
Chlorine compounds
Hydrogen cyanide

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Hydrogen chloride
Sulphuric acid
Hydrogen fluoride
Thermal decomposition can lead to release of toxic and irritating vapors.

5.3 Advice for firefighters

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

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 : Use personal protective equipment.
Never return spills in original containers for re-use.
Mark the contaminated area with signs and prevent access to unauthorized personnel.
Only qualified personnel equipped with suitable protective equipment may intervene.
For disposal considerations see section 13.

6.2 Environmental precautions

Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

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 : Avoid formation of aerosol.
Do not breathe vapours/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.

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For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms.
To avoid spills during handling keep bottle on a metal tray.
Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Hygiene measures : When using do not eat or drink. When using do not smoke.
Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully re-sealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

Storage class (TRGS 510) : 10, Combustible liquids

Further information on storage stability : No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s) : Registered pesticide to be used in accordance with a label approved by country-specific regulatory authorities.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

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

Substance name	End Use	Exposure routes	Potential health effects	Value
N,N-dimethyldecan-1- amide	Workers	Inhalation	Long-term systemic effects	166,7 mg/m3
	Workers	Dermal	Long-term systemic effects	23,81
	Consumers	Inhalation	Long-term systemic effects	50 mg/m3
	Consumers	Dermal	Long-term systemic effects	14,29 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	14,29 mg/kg bw/day

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

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Substance name	Environmental Compartment	Value
N,N-dimethyldecan-1-amide	Fresh water	0,028 mg/l
	Marine water	0,003 mg/l
	Fresh water sediment	0,335 mg/kg dry weight (d.w.)
	Marine sediment	0,034 mg/kg dry weight (d.w.)
	Soil	5,3 mg/kg dry weight (d.w.)
	Intermittent use (freshwater)	0,077 mg/l
	Sewage treatment plant	2,12 mg/l
	Oral	12,71 mg/kg

8.2 Exposure controls

Personal protective equipment

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

Hand protection
Material : Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber.

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection : In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.

Protective measures : Plan first aid action before beginning work with this product.
Always have on hand a first-aid kit, together with proper instructions.
Wear suitable protective equipment.
When using do not eat, drink or smoke.

In the context of professional plant protection use as recommended, the end user must refer to the label and the instructions for use.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : liquid

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Colour	:	brown
Odour	:	aromatic
Melting point/freezing point	:	No data available
Boiling point/boiling range	:	No data available
Upper explosion limit / Upper flammability limit	:	not determined
Lower explosion limit / Lower flammability limit	:	not determined
Flash point	:	> 103 °C
Decomposition temperature	:	No data available
pH	:	6,5 - 8,5 (23 °C) (1% solution in water)
Viscosity		
Viscosity, kinematic	:	85,5 mm ² /s (20 °C) 100 rpm
Solubility(ies)		
Water solubility	:	dispersible
Partition coefficient: n-octanol/water	:	Not available for this mixture.
Vapour pressure	:	Not available for this mixture.
Density	:	0,9900 g/cm ³ (20 °C)
Relative vapour density	:	No data available
Particle characteristics		
Particle size	:	Not applicable
Particle Size Distribution	:	Not applicable
Shape	:	Not applicable

9.2 Other information

Explosives	:	Not explosive Method: Regulation (EC) No. 440/2008, Annex, A.14
Oxidizing properties	:	Non-oxidizing
Self-ignition	:	360 °C

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Surface tension : 26 mN/m, 25 °C

SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : No decomposition if stored and applied as directed.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : Avoid strong acids, bases, and oxidizers

10.6 Hazardous decomposition products

Stable under recommended storage conditions.

SECTION 11: Toxicological information

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

Acute toxicity

Harmful if swallowed or if inhaled.

Product:

Acute oral toxicity : LD50 (Rat): 550 - 2.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): 3,326 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Remarks: Product was tested in the form of a respirable aerosol.

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg

Components:

prothioconazole (ISO):

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

Acute inhalation toxicity : LC50 (Rat): > 4,99 mg/l
Exposure time: 4 h

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Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg
Assessment: The component/mixture is minimally toxic after single contact with skin.

Bixafen:

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): 5.383 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg

Oxirane, methyl-, polymer with oxirane, mono(2-ethylhexyl) ether:

Acute oral toxicity : LD50 (Rat, female): > 2.000 mg/kg

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg

N,N-dimethyldecan-1-amide:

Acute oral toxicity : LD50 (Rat, male and female): > 2.000 mg/kg
Method: OECD Test Guideline 420

Acute inhalation toxicity : LC50 (Rat, male and female): > 3,55 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

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

Skin corrosion/irritation

Not classified based on available information.

Product:

Species : Rabbit
Result : No skin irritation

Remarks : Extremely corrosive and destructive to tissue.

Components:

prothioconazole (ISO):

Species : Rabbit
Result : No skin irritation

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Bixafen:

Species	:	Rabbit
Result	:	No skin irritation

Oxirane, methyl-, polymer with oxirane, mono(2-ethylhexyl) ether:

Result	:	slight irritation
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N,N-dimethyldecan-1-amide:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Skin irritation

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Species	:	Rabbit
Result	:	Irreversible effects on the eye

Remarks	:	May cause irreversible eye damage.
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Components:

prothioconazole (ISO):

Species	:	Rabbit
Result	:	No eye irritation

Bixafen:

Species	:	Rabbit
Result	:	No eye irritation

N,N-dimethyldecan-1-amide:

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

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Product:

Species	:	Mouse
Method	:	OECD Test Guideline 429

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Result : Not a skin sensitizer.

Components:

prothioconazole (ISO):

Species : Guinea pig
Method : OECD Test Guideline 406
Result : Not a skin sensitizer.

Bixafen:

Species : Mouse
Result : Does not cause skin sensitisation.

Oxirane, methyl-, polymer with oxirane, mono(2-ethylhexyl) ether:

Species : Guinea pig
Result : Not a skin sensitizer.

N,N-dimethyldecan-1-amide:

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

Germ cell mutagenicity

Not classified based on available information.

Components:

prothioconazole (ISO):

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Test system: rat hepatocytes
Result: equivocal

Test Type: in vitro DNA damage and/or repair study
Result: negative

Test Type: gene mutation test
Result: negative

Genotoxicity in vivo : Test Type: chromosome aberration assay
Species: Rat
Result: negative

Germ cell mutagenicity- Assessment : Weight of evidence does not support classification as a germ cell mutagen.

N,N-dimethyldecan-1-amide:

Genotoxicity in vitro : Test Type: reverse mutation assay
Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)

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Result: negative

Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473

Result: negative

Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: negative

Remarks: Based on data from similar materials

Germ cell mutagenicity- Assessment : Weight of evidence does not support classification as a germ cell mutagen.

Carcinogenicity

Not classified based on available information.

Components:

prothioconazole (ISO):

Species	: Mouse, male
Exposure time	: 80 w
Dose	: 0, 10, 70, 500 mg/kg/d
NOAEL	: 10 mg/kg bw/day
LOAEL	: 70 mg/kg body weight
Result	: negative

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

Reproductive toxicity

Suspected of damaging the unborn child.

Components:

prothioconazole (ISO):

Effects on foetal development	: Species: Rat General Toxicity Maternal: NOAEL: 9,7 mg/kg bw/day Developmental Toxicity: NOAEL: 20 mg/kg bw/day
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Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity
Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

Oxirane, methyl-, polymer with oxirane, mono(2-ethylhexyl) ether:

Effects on fertility	: Remarks: No data available
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Effects on foetal development	: Remarks: No data available
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N,N-dimethyldecan-1-amide:

Effects on foetal development : Species: Rat
Application Route: Ingestion
Dose: 50, 150, 450mg/kg/bw
General Toxicity Maternal: NOAEL: 50 - < 150 mg/kg bw/day
Teratogenicity: NOAEL: >= 450 mg/kg bw/day
Embryo-foetal toxicity: NOAEL: 150 - < 450 mg/kg bw/day
Symptoms: Retardations, Skeletal malformations
Method: OECD Test Guideline 414
Remarks: Based on data from similar materials

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

STOT - single exposure

May cause respiratory irritation.

Components:

N,N-dimethyldecan-1-amide:

Assessment : May cause respiratory irritation.

STOT - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Components:

N,N-dimethyldecan-1-amide:

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

Repeated dose toxicity

Components:

prothioconazole (ISO):

Species : Rat
NOAEL : 50 mg/kg
LOAEL : 750 mg/kg
Exposure time : 53 w
Dose : 5, 50, 750 mg/kg
Target Organs : Liver, Kidney, Bladder

N,N-dimethyldecan-1-amide:

Species : Dog, male and female
LOAEL : >=200 mg/kg bw/day
Application Route : Oral
Exposure time : 13 weeks
Dose : 40, 200, 1000mg/kg bw
Method : OECD Test Guideline 409

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Remarks : Based on data from similar materials

Aspiration toxicity

Not classified based on available information.

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.

Further information

Product:

Remarks : No data available

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1,55 mg/l
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 4,6 mg/l
aquatic invertebrates Exposure time: 48 h

Toxicity to algae/aquatic : IC50 (Raphidocelis subcapitata (freshwater green alga)):
plants 0,0499 mg/l
Exposure time: 72 h

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

Components:

spiroxamine (ISO):

M-Factor (Acute aquatic toxicity) : 100

M-Factor (Chronic aquatic toxicity) : 100

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prothioconazole (ISO):

- | | | |
|--|---|---|
| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): 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
Exposure time: 72 h

EC50 (Skeletonema costatum (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: 21 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 |
| Toxicity to soil dwelling organisms | : | LC50: > 1.000 mg/kg
Exposure time: 14 d
Species: Eisenia fetida (earthworms) |
| Toxicity to terrestrial organisms | : | LD50: > 2.000 mg/kg
Species: Colinus virginianus (Bobwhite quail)

NOEC: 78 mg/kg
Exposure time: 21 d
Species: Anas platyrhynchos (Mallard duck)

> 100 µg/bee
Species: Apis mellifera (bees)
Remarks: Contact

> 71 µg/bee
Species: Apis mellifera (bees)
Remarks: Oral |

Bixafen:

- | | | |
|-------------------------------|---|--|
| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): 0,0949 mg/l
Exposure time: 96 h |
| Toxicity to daphnia and other | : | EC50 (Daphnia magna (Water flea)): 1,2 mg/l |

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aquatic invertebrates	Exposure time: 48 h
Toxicity to algae/aquatic plants	: EC50 (Pseudokirchneriella subcapitata (green algae)): 0,0965 mg/l Exposure time: 72 h
M-Factor (Acute aquatic toxicity)	: 10
M-Factor (Chronic aquatic toxicity)	: 10

Oxirane, methyl-, polymer with oxirane, mono(2-ethylhexyl) ether:

Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 36,6 mg/l Exposure time: 48 h Test Type: static test
Toxicity to algae/aquatic plants	: EC50 (Desmodesmus subspicatus (green algae)): 31,9 - 97,7 mg/l Exposure time: 72 h Test Type: Growth inhibition

Ecotoxicology Assessment

Chronic aquatic toxicity	: Harmful to aquatic life with long lasting effects.
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N,N-dimethyldecan-1-amide:

Toxicity to fish	: LC50 (Danio rerio (zebra fish)): 14,8 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 7,7 mg/l Exposure time: 48 h Test Type: static test Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	: EC50 (Pseudokirchneriella subcapitata (green algae)): 16,06 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials EC10 (Pseudokirchneriella subcapitata (green algae)): 4,17 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials
Toxicity to microorganisms	: EC50 (activated sludge): 212,3 mg/l Exposure time: 3 h Method: OECD Test Guideline 209

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Remarks: Based on data from similar materials

Toxicity to fish (Chronic toxicity)	: NOEC: $\geq 0,71$ mg/l Exposure time: 35 d Species: Danio rerio (zebra fish) Method: OECD Test Guideline 210
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC: 0,866 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211
Toxicity to soil dwelling organisms	: LC50: 1.032,1 mg/kg Exposure time: 14 d Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207
	: NOEC: 562 mg/kg Exposure time: 14 d Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207

12.2 Persistence and degradability

Product:

Biodegradability : Remarks: No data is available on the product itself.

Components:

spiroxamine (ISO):

Biodegradability : Remarks: Not readily biodegradable.

prothioconazole (ISO):

Biodegradability : Result: Not readily biodegradable.

Bixafen:

Biodegradability : Remarks: Not readily biodegradable.

Oxirane, methyl-, polymer with oxirane, mono(2-ethylhexyl) ether:

Biodegradability : Result: Readily biodegradable.
Biodegradation: $> 60\%$
Exposure time: 28 d
Method: OECD Test Guideline 301F

N,N-dimethyldecan-1-amide:

Biodegradability : Inoculum: activated sludge, non-adapted
Result: Readily biodegradable.
Method: OECD Test Guideline 301B
Remarks: Based on data from similar materials

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12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data is available on the product itself.

Components:

spiroxamine (ISO):

Bioaccumulation : Bioconcentration factor (BCF): 87
Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 5,5

prothioconazole (ISO):

Bioaccumulation : Bioconcentration factor (BCF): 19
Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 3,82 (20 °C)
pH: 7

Bixafen:

Bioaccumulation : Bioconcentration factor (BCF): 695
Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 3,3 (40 °C)

Oxirane, methyl-, polymer with oxirane, mono(2-ethylhexyl) ether:

Bioaccumulation : Remarks: No data available

Partition coefficient: n-octanol/water : Remarks: No data available

N,N-dimethyldecan-1-amide:

Bioaccumulation : Remarks: No bioaccumulation is to be expected (log Pow <= 4).

Partition coefficient: n-octanol/water : log Pow: 3,44
Method: QSAR

12.4 Mobility in soil

Product:

Distribution among environmental compartments : Remarks: No data is available on the product itself.

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Components:

spiroxamine (ISO):

Distribution among environmental compartments : Remarks: Slightly mobile in soils

prothioconazole (ISO):

Distribution among environmental compartments : Koc: 1765 ml/g, log Koc: 3,24
Remarks: Low mobility in soil

Stability in soil :

Bixafen:

Distribution among environmental compartments : Remarks: Slightly mobile in soils

N,N-dimethyldecan-1-amide:

Distribution among environmental compartments : Remarks: Slightly mobile in soils

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.

12.7 Other adverse effects

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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Product	: The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.
Contaminated packaging	: Empty remaining contents. Do not re-use empty containers. Packaging that is not properly emptied must be disposed of as the unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information

14.1 UN number or ID number

ADN	: UN 3082
ADR	: UN 3082
RID	: UN 3082
IMDG	: UN 3082
IATA	: UN 3082

14.2 UN proper shipping name

ADN	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Spiroamine, Prothioconazole)
ADR	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Spiroamine, Prothioconazole)
RID	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Spiroamine, Prothioconazole)
IMDG	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Spiroamine, Prothioconazole)
IATA	: Environmentally hazardous substance, liquid, n.o.s. (Spiroamine, Prothioconazole)

14.3 Transport hazard class(es)

	Class	Subsidiary risks
ADN	: 9	
ADR	: 9	
RID	: 9	
IMDG	: 9	

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IATA : 9

14.4 Packing group

ADN

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

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

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

ADN

Environmentally hazardous : yes

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

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14.6 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.

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 - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	:	Conditions of restriction for the following entries should be considered: Number on list 3
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	:	Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	:	Not applicable
Regulation (EC) 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

Water hazard class (Germany) : WGK 3 highly hazardous to water
Classification according to AwSV, Annex 1 (5.2)

TA Luft List (Germany) : 5.2.1 Total dust:
Not applicable
5.2.2 Inorganic substances in powdered form:
Not applicable
5.2.4 Inorganic substances in gaseous form:
Not applicable
5.2.5 Organic Substances:
Not applicable
5.2.7.1.1 Carcinogenic substance:

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Not applicable
5.2.7.1.1 Quartz fine dust PM4:
Not applicable
5.2.7.1.1 Formaldehyde:
Not applicable
5.2.7.1.2 Germ cell mutagens:
Not applicable
5.2.7.1.3 Substances toxic to reproduction:
Not applicable
5.2.7.2 Poorly degradable, easily enrichable and highly toxic
organic substances:
Not applicable

Other regulations:

Take note of Law on the protection of mothers at work, in education and in studies (Maternity Protection Act - MuSchG).

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

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

TCSI	: Not in compliance with the inventory
TSCA	: Product contains substance(s) not listed on TSCA inventory.
AIIC	: Not in compliance with the inventory
DSL	: This product contains the following components that are not on the Canadian DSL nor NDSL. Bixafen prothioconazole (ISO) spiroxamine (ISO) N,N-dimethyldecan-1-amide
ENCS	: Not in compliance with the inventory
ISHL	: Not in compliance with the inventory
KECI	: Not in compliance with the inventory
PICCS	: Not in compliance with the inventory
IECSC	: Not in compliance with the inventory
NZIoC	: Not in compliance with the inventory
TECI	: Not in compliance with the inventory

15.2 Chemical safety assessment

A chemical safety assessment is not required for this product (mixture).

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SECTION 16: Other information

Full text of H-Statements

H302	: Harmful if swallowed.
H312	: Harmful in contact with skin.
H315	: Causes skin irritation.
H317	: May cause an allergic skin reaction.
H319	: Causes serious eye irritation.
H332	: Harmful if inhaled.
H335	: May cause respiratory irritation.
H361d	: Suspected of damaging the unborn child.
H373	: May cause 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

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

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

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tative) 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; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:

Acute Tox. 4	H302
Acute Tox. 4	H332
Eye Dam. 1	H318
Repr. 2	H361d
STOT SE 3	H335
STOT RE 2	H373
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

Classification procedure:

Based on product data or assessment
Based on product data or assessment
Based on product data or assessment
Calculation method
Calculation method
Calculation method
Based on product data or assessment
Based on product data or assessment

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