

LEVEE

GROUP 3 | 7 FUNGICIDES

Product registration number: MAPP 19848 **UFI:** Q4F4-Q087-P003-DHFE

LEVEE is an emulsifiable concentrate containing 75 g/l (7.4% w/w) benzovindiflupyr and 150 g/l (14.9% w/w) prothioconazole.

For the control of crown rust on oats, the useful control of *Ascochyta pisi* and moderate control of *Uromyces* sp. on combining peas, the control of *Uromyces* sp. and useful control of *Botrytis* sp. on field beans, the moderate control of *Mycosphaerella linicola* and moderate control of *Golovinomyces orontii* on linseed/flax.

SAFETY PRECAUTIONS

(a) Operator protection

Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment:

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS), SUITABLE PROTECTIVE GLOVES AND FACE PROTECTION (FACESHIELD) when handling the concentrate.

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) during application.

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) and SUITABLE PROTECTIVE GLOVES when handling contaminated surfaces.

However engineering controls may replace personal protective equipment if a COSHH assessment shows they provide an equal or higher standard of protection.

IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY with plenty of water and seek medical advice.

WASH SPLASHES from skin immediately.

WHEN USING DO NOT EAT, DRINK OR SMOKE.

WASH HANDS AND EXPOSED SKIN before meals and after work.

IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, seek medical advice immediately (show the label where possible).

(b) Environmental protection

To protect aquatic organisms, respect an unsprayed buffer zone distance to surface water bodies as specified for the crop. HORIZONTAL BOOM SPRAYERS MUST BE FITTED WITH THREE STAR DRIFT REDUCTION TECHNOLOGY. Low drift spraying equipment must be operated according to the specific conditions stated in the official three star rating for that equipment as published on HSE Chemicals Regulation Directorate's website. Maintain three star operating conditions until 30 m from the top of the bank of any surface water bodies.

DO NOT ALLOW DIRECT SPRAY from horizontal boom sprayers to fall within the distance specified for the crop to the top of the bank of a static or flowing water body, or within 1 m of the top of a ditch which is dry at the time of application. Aim spray away from water.

NOTE: BUFFER ZONES OF MORE THAN 5 M CANNOT BE REDUCED UNDER THE LOCAL ENVIRONMENT RISK ASSESSMENT FOR PESTICIDES (LERAP) SCHEME. The statutory buffer zone must be maintained and the distance recorded in Section A of the LERAP record form. The LERAP record form must be kept available for three years.

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.

(c) Storage and disposal

RINSE CONTAINER THOROUGHLY by using an integrated pressure rinsing device or manually rinsing three times. Add washings to sprayer at time of filling and dispose of safely.

KEEP IN ORIGINAL CONTAINER, tightly closed, in a safe place.

EMPTY CONTAINER COMPLETELY and dispose of safely.

In case of toxic or transport emergency ring +44 (0)1484 538444 any time

The (COSHH) Control of Substances Hazardous to Health Regulations may apply to the use of this product at work.

SHAKE WELL BEFORE USE.

PROTECT FROM FROST.

Syngenta UK Limited
CPC4, Capital Park, Fulbourn, Cambridge,
CB21 5XE. Tel: Cambridge (01223) 883400

L1085012 GBRI/01A PPE 4153456



The
Voluntary
Initiative

This product label
is compliant with the
CPA Voluntary Initiative
(V)guidance.

5 litres

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LEVEE

Emulsifiable concentrate containing 75 g/l (7.4 w/w) benzovindiflupyr and 150 g/l (14.9% w/w) prothioconazole.

Danger

Harmful if swallowed.

Causes skin irritation.

May cause an allergic skin reaction.

Causes serious eye damage.

Very toxic to aquatic life with long lasting effects.

Keep out of reach of children.

IF ON SKIN: Wash with plenty of soap and water.

IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

If skin irritation or rash occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

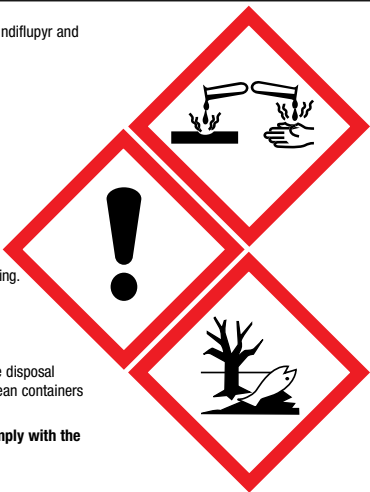
Take off contaminated clothing and wash before reuse.

Collect spillage.

Dispose of contents/container to a licensed hazardous waste disposal contractor or collection site except for empty triple rinsed clean containers which can be disposed of as non-hazardous waste.

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

MAPP No. 19848 **UFI:** Q4F4-Q087-P003-DHFE

**IMPORTANT INFORMATION**

FOR USE ONLY AS A PROFESSIONAL FUNGICIDE.

Crop	Maximum individual dose (litres/hectare/crop)	Maximum no. of treatments (per crop)	Latest time of application	Aquatic buffer zone distance (metres)
Oats	1.0	1	Up to and including end of heading: inflorescence fully emerged (GS 59).	6
Combining peas, field beans	0.66	1	Up to and including 20% of pods have reached typical length (GS 72).	6
Linseed/flax	0.66	1	Up to and including end of flowering (GS 69).	6

Other Specific Restrictions:

The earliest time of application on oats is GS31.

The earliest time of application on pulses is GS51.

The earliest time of application on linseed/flax is GS32.

No more than two applications of products containing SDH inhibitors must be applied to any cereal crop.

Horizontal boom sprayers must be fitted with three star drift reduction technology for all uses.

This product must not be applied via hand-held equipment.

READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTION PRODUCTS.

This leaflet is part of the approved Product Label.

DIRECTIONS FOR USE

IMPORTANT: This information is approved as part of the Product Label. All instructions within this section must be carefully read in order to obtain safe and successful use of this product.

GENERAL INFORMATION

Benzovindiflupyr is an orthosubstituted pyrazole carboxamide fungicide belonging to the sub-class of the benzenobornenes.

Benzovindiflupyr is an SDH inhibitor (FRAC group #7 carboxamides). Benzovindiflupyr is predominantly protectant substance.

Prothioconazole is a triazole (DMI) fungicide. Prothioconazole is a systemic fungicide with protectant and curative properties.

LEVEE should be used as a protectant treatment or in the earliest stages of disease development. Consult processor before using on crops for processing.

DISEASES CONTROLLED

Oats

Crown rust (*Puccinia coronata*)

Combining peas

Ascochyta pisi [Useful control]

Uromyces sp. [Moderate control]

Field beans

Uromyces sp.

Botrytis sp. [Useful control]

Linseed/flax

Mycosphaerella linicola [Moderate control]

Golovinomyces orontii [Moderate control]

RESISTANCE MANAGEMENT

Use LEVEE as part of an Integrated Crop Management (ICM) strategy incorporating other methods of control, including where appropriate other fungicides with a different mode of action.

You must not apply more than two foliar applications of products containing SDH inhibitors to any cereal crop. Reduced application rates and split applications of SDHI products must not be used.

Users should refer to current FRAG-UK guidelines for SDHI compounds.

LEVEE contains a DMI fungicide. Resistance to some DMI fungicides has been identified in Septoria leaf blotch (*Mycosphaerella graminicola*) which may seriously affect the performance of some products.

For further advice on resistance management in DMIs contact your agronomist or specialist advisor, and visit the FRAG-UK website.

Disease control may be reduced if strains of pathogens less sensitive to LEVEE develop.

CROP SPECIFIC INFORMATION

Crops and growing conditions

LEVEE can be used on oats, combining peas, field beans and linseed/flax. Apply LEVEE under good growing conditions with adequate soil moisture. Avoid poor growing conditions which may give less reliable results. Effectiveness using three star drift reduction technology may be reduced.

Timing

Always inspect crops to assess disease development immediately before spraying. This product should be used as a protectant treatment or in the earliest stages of disease development following a disease risk assessment or the use of appropriate decision support systems.

Rates of use

Apply LEVEE at 1.0 litres per hectare on oats.

Apply LEVEE at 0.66 litres per hectare on pulses and linseed/flax.

FOLLOWING CROPS

There are no restrictions on succeeding crops in a normal rotation.

MIXING AND SPRAYING

Mixing Procedure

Make sure the sprayer is set to give an even application at the correct volume. Fill the spray tank with half the required volume of water and begin agitation. Add the required amount of LEVEE to the spray tank and allow to disperse before adding any other product. Add the rest of the water and continue to agitate the mixture thoroughly. Always agitate during spraying.

Spray Volume and Application

Apply LEVEE in a recommended 100 - 400 litres of water per hectare through conventional crop spraying equipment. The higher spray volumes are recommended where the crop is dense or disease pressure/risk is high to ensure good penetration to the lower leaves and stem bases. Disease control maybe compromised by reducing water volumes, where good spray coverage is difficult to achieve. A spray pressure of 2-3 bars is recommended. Effectiveness may be reduced using three star drift reduction technology.

After Spraying

Thoroughly wash out sprayer three times according to manufacturer's guidelines and dispose of washing and clean containers according to DEFRA Code of Practice and local water authority guidelines.

Section 6 of the Health and Safety at Work Act
Additional Product Safety Information

(This section does not form part of the product label under the Plant Protection Products Regulations 1995.)

The product label provides information on a specific pesticidal use of the product; do not use otherwise, unless you have assessed any potential hazard involved, the safety measures required and that the particular use has 'off-label' approval or is otherwise permitted under the Plant Protection Products Regulations.

The information on this label is based on the best available information including data from test results.

SAFETY DATA SHEET - v1

1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY/ UNDERTAKING

1.1 Product Identifier

Product Name: LEVEE

Design Code: A19020T

Product Registration number: MAPP 19848

Unique Formula Identifier(UFI): Q4F4-Q087-P003-DHFE

1.2 Relevant Identified Uses of the substance or mixture and uses advised against

Use of the Substance/Mixture: Fungicide

Recommended restrictions on use: professional use

1.3 Details of the supplier of the safety data sheet

Company: Syngenta UK Limited
CPC4, Capital Park
Fulbourn, Cambridge CB21 5XE
United Kingdom

Telephone: +44 (0) 1223 883400

Telefax: +44 (0) 1223 882195

E-mail address of person responsible for the SDS: customer.services@syngenta.com

1.4 Emergency telephone number

Emergency phone No. +44 1484 538444

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Skin sensitisation, Category 1 H317: May cause an allergic skin reaction.

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.

Serious eye damage/eye irritation, Category 1 H318: Causes serious eye damage.

Skin corrosion/irritation, Category 2 H315: Causes skin irritation.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Hazard pictograms		
Signal Word	Danger	
Hazard Statements	H302 H315 H317 H318 H332 H400 H410	Harmful if swallowed. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. Harmful if inhaled. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.
Precautionary Statements	P102 P302+P352 P333+P313 P305+P351 +P338 P337+P313 P362+P364 P391 P501	Keep out of reach of children. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/ attention. Take off contaminated clothing and wash before reuse. Collect spillage. Dispose of contents/container to a licensed hazardous waste disposal contractor or collection site except for empty triple rinsed containers which may be disposed of as non-hazardous waste.

Hazardous components which must be listed on the label:

mixture of octanoic acid- decanoic acid- N,N-dimethylamide

Additional Labelling

EUH 401 To avoid risks to human health and the environment comply with the instructions for use.

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.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.2 Mixtures

Components

Chemical Name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
mixture of octanoic acid- decanoic acid- N,N-dimethylamide	1118-92-9 214-272-5 01-2119974115-37	Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H335 (Respiratory system)	>= 30 - < 50
prothioconazole	178928-70-6	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 1	>= 10 - < 20
poly(oxy-1,2- ethanediyl), -[2,4,6- tris(1- phenylethyl phenyl)]- - hydroxy-	99734-09-5	Aquatic Chronic 3; H412	>= 2.5 - < 10
benzovindiflupyr (ISO)	1072957-71-1 616-218-00-X	Acute Tox. 3; H301 Acute Tox. 3; H331 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 100100 M-Factor (Chronic aquatic toxicity): 100100	>= 2.5 - < 10

For explanation of abbreviations see section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice : Have the product container, label or Safety Data Sheet with you when calling the emergency number, a poison control center or physician, or going for treatment.

If inhaled : Move the victim to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a physician or poison control centre immediately.

In case of skin contact : Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash contaminated clothing before re-use.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

If swallowed : If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Nonspecific. No symptoms known or expected.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment: There is no specific antidote available. Treat symptomatically.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media :

Extinguishing media - small fires

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Extinguishing media - large fires

Alcohol-resistant foam or Water spray

Unsuitable extinguishing media :

Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting: As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10). Exposure to decomposition products may be a hazard to health.

5.3 Advice for fire-fighters

Special protective equipment for firefighters: Wear full protective clothing and self-contained breathing apparatus.

Further information: Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions: Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions

Environmental precautions : Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up: Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Clean contaminated surface thoroughly. Clean with detergents. Avoid solvents.

Retain and dispose of contaminated wash water.

6.4 Reference to other sections

For disposal considerations see section 13., Refer to protective measures listed in sections 7 and 8.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling : No special protective measures against fire required. Avoid contact with skin and eyes. When using do not eat, drink or smoke. For personal protection see section 8.

7.2 Conditions for safe storage, including any incompatibilities

No special storage conditions required. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs. Keep away from direct sunlight.

7.3 Specific end uses

Specific use(s): For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
prothioconazole	178928-70-6	TWA	1.4 mg/m ³	Supplier
benzovindiflupyr (ISO)	1072957-71-1	TWA	1 mg/m ³	Syngenta

Derived No Effect Level (DNEL):

Substance name	End Use	Exposure routes	Potential health effects	Value
benzovindiflupyr (ISO)	Workers	Inhalation	Long-term systemic effects	0.478 mg/m ³
	Workers	Inhalation	Acute systemic effects	1.13 mg/m ³
	Workers	Dermal	Long-term systemic effects	3.33 mg/kg
	Consumers	Inhalation	Long-term systemic effects	0.119 mg/m ³
	Consumers	Dermal	Long-term systemic effects	1.67 mg/kg
mixture of octanoic acid- decanoic acid- N,N-dimethylamide	Consumers	Oral	Long-term systemic effects	0.049 mg/kg
	Workers	Inhalation	Long-term systemic effects	166.67 mg/m ³
	Workers	Dermal	Long-term systemic effects	23.81 mg/kg
	Consumers	Inhalation	Long-term systemic effects	50 mg/m ³
	Consumers	Dermal	Long-term systemic effects	14.29 mg/kg
Consumers	Oral	Long-term systemic effects	14.29 mg/kg	

Predicted No Effect Concentration (PNEC):

Substance name	Environmental Compartment	Value
benzovindiflupyr (ISO)	Fresh water	0.000095 mg/l
	Secondary poisoning	2 mg/kg
	Soil	0.041 mg/kg
	Marine water	0.000009 mg/l
	Fresh water sediment	0.053 mg/kg
	Sewage treatment plant	100 mg/l
mixture of octanoic aciddecanoic acid- N,Ndimethylamide	Marine sediment	0.005 mg/kg
	Fresh water	0.026 mg/l
	Marine water	0.0026 mg/l
	Intermittent use/release	0.077 mg/l

Substance name	Environmental Compartment	Value
	Sewage treatment plant	2.12 mg/l
	Fresh water sediment	0.318 mg/kg
	Marine sediment	0.0318 mg/kg
	Soil	5.23 mg/kg

8.2 Exposure controls

Engineering Measures

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. The extent of these protection measures depends on the actual risks in use. Maintain air concentrations below occupational exposure standards. Where necessary, seek additional occupational hygiene advice.

Personal protective equipment

Eye protection: Tightly fitting safety goggles. Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.

Hand protection

Material : Nitrile rubber

Break through time : > 480 min

Glove thickness : 0.5 mm

Remarks : Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. 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 break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Remove and wash contaminated clothing before re-use.

Wear as appropriate: Impervious clothing

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Suitable respiratory equipment: Respirator with a half face mask

The filter class for the respirator must be suitable for the maximum expected contaminant concentration

(gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, selfcontained breathing apparatus must be used.

Protective measures : The use of technical measures should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance : clear to slightly turbid

Colour : yellow to amber

Odour : amine-like, ester-like, strong

Odour Threshold: No data available

pH :	5.0
	Concentration: 1 % w/w
Melting point/range :	No data available
Boiling point/boiling range :	No data available
Flash point :	141 °C
	Method: Seta closed cup
Evaporation rate :	No data available
Flammability (solid, gas) :	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
Density :	1 g/cm ³ (25 °C)
	1,007 g/cm ³ (19 °C)
Solubility(ies)	
Water solubility :	No data available
Solubility in other solvents :	No data available
Partition coefficient:	
noctanol/water:	No data available
Auto-ignition temperature :	370 °C
Decomposition temperature :	No data available
Viscosity	
Viscosity, dynamic :	75.4 mPa.s (20 °C)
	26.3 mPa.s (40 °C)
Viscosity, kinematic :	No data available
Explosive properties :	Not explosive
Oxidizing properties :	The substance or mixture is not classified as oxidizing.

9.2 Other Information

Surface tension :	32.6 mN/m, 20 °C
Particle size :	No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity:

None reasonably foreseeable.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions: No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid: Extremes of temperature and direct sunlight.

10.5 Incompatible materials

Materials to avoid: None known.

10.6 Hazardous decomposition products

Hazardous decomposition products: No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Information on likely routes of exposure: Ingestion, Inhalation, Skin contact, Eye contact

Acute toxicity

Product:

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

Acute inhalation toxicity: LC50 (Rat, male and female): > 5.04 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, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Components:

prothioconazole:

Acute oral toxicity : LD50 (Rat): > 6,200 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 4.99 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Highest attainable concentration

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

poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-:

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

benzovindiflupyr (ISO):

Acute oral toxicity: LD50 (Rat, female): 55 mg/kg

Acute inhalation toxicity: LC50 (Rat, male and female): > 0.56 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

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: Rabbit
Result: No skin irritation

Components:

mixture of octanoic acid- decanoic acid- N,N-dimethylamide:

Species: Rabbit
Result: Irritating to skin.

prothioconazole:

Species: Rabbit
Result: No skin irritation

benzovindiflupyr (ISO):

Species: Rabbit
Result: No skin irritation

Serious eye damage/eye irritation

Product:

Species: Rabbit

Result: Irritation to eyes, reversing within 7 days

Components:

mixture of octanoic acid- decanoic acid- N,N-dimethylamide:

Species: Rabbit

Result: Risk of serious damage to eyes.

prothioconazole:

Species: Rabbit

Result: No eye irritation

benzovindiflupyr (ISO):

Species: Rabbit

Result: No eye irritation

Respiratory or skin sensitisation

Product:

Test Type: mouse lymphoma cells

Species: Mouse

Result: May cause sensitisation by skin contact.

Components:

prothioconazole:

Test Type : mouse lymphoma cells

Species : Mouse

Result : Did not cause sensitisation on laboratory animals.

benzovindiflupyr (ISO):

Test Type : mouse lymphoma cells

Species : Mouse

Result : Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity

Components:

prothioconazole:

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

poly(oxy-1,2-ethanediy), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-:

Germ cell mutagenicity- Assessment: In vitro tests did not show mutagenic effects

benzovindiflupyr (ISO):

Germ cell mutagenicity- Assessment: Animal testing did not show any mutagenic effects.

Carcinogenicity

Components:

prothioconazole:

Carcinogenicity - Assessment: No evidence of carcinogenicity in animal studies.

benzovindiflupyr (ISO):

Carcinogenicity - Assessment: Weight of evidence does not support classification as a carcinogen, This substance has been reported to cause tumours in certain animal species., There is no evidence that these findings are relevant to humans.

Reproductive toxicity

Components:

prothioconazole:

Reproductive toxicity - Assessment: No information available.

benzovindiflupyr (ISO):

Reproductive toxicity - Assessment: No toxicity to reproduction

STOT - single exposure

Components:

mixture of octanoic acid- decanoic acid- N,N-dimethylamide:

Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

prothioconazole:

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

benzovindiflupyr (ISO):

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

STOT - repeated exposure

Components:

prothioconazole:

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

benzovindiflupyr (ISO):

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

Repeated dose toxicity

Components:

benzovindiflupyr (ISO):

Remarks: No adverse effect has been observed in chronic toxicity tests.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Product:

Toxicity to fish :	LC50 (<i>Oncorhynchus mykiss</i> (rainbow trout)): 0.148 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates:	EC50 (<i>Daphnia magna</i> (Water flea)): 0.36 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants :	ErC50 (<i>Raphidocelis subcapitata</i> (freshwater green alga)): 13 mg/l Exposure time: 72 h NOEC (<i>Raphidocelis subcapitata</i> (freshwater green alga)): 0.32 mg/l End point: Growth rate Exposure time: 72 h EC10 (<i>Raphidocelis subcapitata</i> (freshwater green alga)): 3.6 mg/l End point: Growth rate Exposure time: 72 h

Components:

mixture of octanoic acid- decanoic acid- N,N-dimethylamide:

Toxicity to fish : LC50 (*Danio rerio* (zebra fish)): 14.8 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:	LC50 (<i>Daphnia magna</i> (Water flea)): 7.7 mg/l Exposure time: 48 h Test Type: static test
Toxicity to algae/aquatic plants:	ErC50 (<i>Raphidocelis subcapitata</i> (freshwater green alga)): 16.06 mg/l Exposure time: 72 h
prothioconazole:	
Toxicity to fish :	LC50 (<i>Oncorhynchus mykiss</i> (rainbow trout)): 1.83 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates:	EC50 (<i>Daphnia magna</i> (Water flea)): 1.3 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants:	ErC50 (<i>Raphidocelis subcapitata</i> (freshwater green alga)): 2.18 mg/l Exposure time: 72 h ErC50 (<i>Skeletonema costatum</i> (marine diatom)): 0.046 mg/l Exposure time: 72 h
M-Factor (Acute aquatic toxicity):	10
M-Factor (Chronic aquatic toxicity):	1
poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-:	
Toxicity to fish :	LC50 (<i>Danio rerio</i> (zebra fish)): 21 mg/l Exposure time: 96 h
Ecotoxicology Assessment	
Chronic aquatic toxicity :	Harmful to aquatic life with long lasting effects.
benzovindiflupyr (ISO):	
Toxicity to fish :	LC50 (<i>Oncorhynchus mykiss</i> (rainbow trout)): 0.0091 mg/l Exposure time: 96 h LC50 (<i>Cyprinus carpio</i> (Carp)): 0.0035 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates:	EC50 (<i>Americamysis</i>): 0.056 mg/l Exposure time: 96 h
Toxicity to algae/aquatic plants:	ErC50 (<i>Raphidocelis subcapitata</i> (freshwater green alga)): > 0.89 mg/l Exposure time: 96 h NOEC (<i>Raphidocelis subcapitata</i> (freshwater green alga)): 0.42 mg/l End point: Growth rate Exposure time: 96 h ErC50 (<i>Skeletonema costatum</i> (marine diatom)): 0.55 mg/l Exposure time: 72 h NOEC (<i>Skeletonema costatum</i> (marine diatom)): 0.4 mg/l End point: Growth rate Exposure time: 72 h
M-Factor (Acute aquatic toxicity):	100
Toxicity to microorganisms :	EC50 (activated sludge): > 1,000 mg/l Exposure time: 3 h
Toxicity to fish (Chronic toxicity):	NOEC: 0.00095 mg/l Exposure time: 32 d Species: <i>Pimephales promelas</i> (fathead minnow) Test Type: Early-life Stage

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):

EC10: 0.012 mg/l
Exposure time: 21 d
Species: *Daphnia magna* (Water flea)
NOEC: 0.0074 mg/l
Exposure time: 28 d
Species: *Americamysis*

M-Factor (Chronic aquatic toxicity): 100

12.2 Persistence and degradability

Components:

mixture of octanoic acid- decanoic acid- N,N-dimethylamide:

Biodegradability : Result: Readily biodegradable

Stability in water : Remarks: Product is not persistent.

prothioconazole:

Biodegradability : Result: Not readily biodegradable.

benzovindiflupyr (ISO):

Biodegradability : Result: Not readily biodegradable.

12.3 Bioaccumulative potential

Components:

prothioconazole:

Bioaccumulation : Does not bioaccumulate.

benzovindiflupyr (ISO):

Bioaccumulation : Remarks: Does not bioaccumulate.

Partition coefficient: noctanol/water: log Pow: 4.3 (25 °C)

12.4 Mobility in soil

Components:

mixture of octanoic acid- decanoic acid- N,N-dimethylamide:

Stability in soil : Remarks: Product is not persistent.

prothioconazole:

Distribution among environmental compartments: Remarks: Low mobility in soil.

benzovindiflupyr (ISO):

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.

Components:

prothioconazole:

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).

poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-:

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).

benzovindiflupyr (ISO):

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

No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product: Do not contaminate ponds, waterways or ditches with chemical or used container. Do not dispose of waste into sewer. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging: Empty remaining contents. Triple rinse containers. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

14. TRANSPORT INFORMATION

14.1 UN 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.
(BENZOVINDIFLUPYR)

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

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

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

14.3 Transport hazard class(es)

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

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

IATA (Passenger)

Environmentally hazardous : yes

IATA (Cargo)

Environmentally hazardous : yes

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

Not applicable for product as supplied.

15. REGULATORY INFORMATION

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

Relevant EU provisions transposed through retained EU law

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances,

preparations and articles (Annex XVII): Conditions of restriction for the following entries should be considered: Number on list 3

xylene

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

UK 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.

	Quantity 1	Quantity 2
E1 ENVIRONMENTAL HAZARDS	100 t	200 t

15.2 Chemical Safety Assessment

A chemical safety assessment is not required for this substance when it is used in the specified applications.

16. OTHER INFORMATION

Full text of H-Statements

- H301: Toxic if swallowed.
- H315: Causes skin irritation.
- H318: Causes serious eye damage.
- H331: Toxic if inhaled.
- H335: May cause respiratory irritation.
- 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 Dam.: Serious eye damage
- Skin Irrit.: Skin irritation
- STOT SE: Specific target organ toxicity - single exposure

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; 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; TCSI - Taiwan Chemical Substance 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:

STOT SE 3	H335
Aquatic Chronic 1	H410

Classification procedure:

Calculation method
Calculation method

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.