



Tacanza™ Era

syngenta.

GROUP 3 | 7 FUNGICIDES



TACANZA™ Era 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 a wide range of diseases on wheat, barley, oats, rye, triticale, combining peas, field beans and linseed/flax.

FOR PROFESSIONAL USE ONLY

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

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

Danger.

Harmful if swallowed.

Harmful if inhaled.

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.

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wear protective gloves/eye protection/face protection.

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.

Call a POISON CENTRE or doctor/physician if you feel unwell.

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.



PCS No: 06551 UFI: 7RC3-TORT-H00K-2QSA

IN CASE OF TOXIC OR TRANSPORT EMERGENCY RING +44 (0) 1484 538444 ANYTIME
PROTECT FROM FROST. SHAKE WELL BEFORE USE.

L1086043 IREL/02A PPE 4155034

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5 litres

CONDITIONS OF USE

FOR USE ONLY AS PROFESSIONAL FUNGICIDE

Crop	Maximum individual dose (litres/hectare/crop)	Maximum no. of treatments (per crop)	Latest time of application
Winter and spring wheat, rye and triticale.	1.0	1	Up to and including anthesis complete (GS 69).
Winter and spring barley and oats.	1.0	1	Up to and including complete ear emergence (GS 59).
Combining peas, field beans	0.66	1	Up to and including 20% of pods have reached typical length (GS 72)
Linseed/flax	0.66	1	Up to and including end of flowering (GS 69)

Other Specific Restrictions:

The earliest time of application on cereals is GS31.

The earliest time of application on combining peas, field beans is GS51.

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

A maximum of 2 foliar applications of product(s) containing SDHIs can be applied to any cereal crop.

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

ADDITIONAL SAFETY INFORMATION**(a) Operator protection**

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.

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).

FOR USE BY TRACTOR MOUNTED/TRAILED SPRAYER ONLY.

(b) Environmental protection

To protect aquatic organisms respect an unsprayed buffer zone of 10m to surface waters.*

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.

* To reduce this buffer zone please refer to PRCD Guidance - STRIPE (Surface water Tool for Reducing the Impact of Pesticides in the Environment).

Authorisation Holder

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Marketing Company

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Block 6, Cleaboy Business Park, Old Kilmeaden Road,
Waterford, Ireland, Tel: (051) 377203

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 benzonorbornenes.

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.

TACANZA™ Era should be used as a protectant treatment or in the earliest stages of disease development.

DISEASES CONTROLLED

TACANZA ERA can be used to control the following diseases:

Disease	Wheat	Triticale	Rye	Barley	Oats
Septoria leaf blotch (<i>Zymoseptoria tritici</i>)	C	C	-	-	-
Glume blotch (<i>Septoria nodorum</i>)	C	C	-	-	-
Yellow rust (<i>Puccinia striiformis</i>)	C	C	-	-	-
Brown rust	C	C	C	C	-
Fusarium ear blight (<i>Fusarium spp.</i>)	R	-	-	-	-
<i>Rhynchosporium secalis</i> (Leaf scald)	-	C	C	C	-
Net blotch (<i>Pyrenophora teres</i>)	-	-	-	MC	-
<i>Ramularia collo-cygni</i>	-	-	-	MC	-
Crown rust (<i>Puccinia coronata</i>)	-	-	-	-	MC
C = Control MC = Moderate Control R = Reduction					
Combining peas: Reduction of <i>Ascochyta pisi</i> , moderate control of <i>Uromyces sp</i>					
Field beans: Reduction of <i>Botrytis sp.</i> , control of <i>Uromyces sp</i>					
Linseed: Moderate control of <i>Mycosphaerella linicola</i> , moderate control of powdery mildew <i>Golovinomyces orontii</i>					

RESISTANCE MANAGEMENT

TACANZA ERA should be used in accordance with the instructions for use for the target diseases at the specified growth stages indicated. Use TACANZA ERA 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. For further advice on resistance management contact your agronomist or specialist advisor, and visit the FRAG-UK website.

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. Mixtures of two or more SDHI fungicides do not provide an anti-resistance strategy. Each application of such a mixture counts as one SDHI application. Users should refer to current FRAC guidelines for SDHI compounds.

Isolates of *Septoria* leaf blotch with reduced sensitivity to SDHI fungicides have been detected.

TACANZA ERA contains a DMI fungicide. Isolates of certain cereal diseases with decreased sensitivity to DMI fungicides are known to exist. Where these occur or develop TACANZA ERA may not give satisfactory control. Resistance to some DMI fungicides has been identified in *Septoria* leaf blotch (*Zyromesoptoria tritici*) which may seriously affect the performance of some products.

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

CROP SPECIFIC INFORMATION

Crops and growing conditions

TACANZA ERA can be used on all varieties of winter and spring wheat, winter and spring barley, rye, triticale, oats, combining peas, field beans and linseed/flux. Apply TACANZA ERA 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. Best results will be achieved from applications made 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. TACANZA ERA is accepted by BBPA (British Beer and Pubs Association) for use on malting barley provided application is made before the beginning of flowering (GS 61). Latest timing in malting barley is therefore up to and including complete ear emergence (GS 59).

Rates of use

Apply TACANZA ERA at 1.0 litres per hectare on cereals.

Apply TACANZA ERA at 0.66 litres per hectare on combining peas, field beans and linseed/flux.

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 TACANZA ERA 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 Quality

Apply TACANZA ERA using a three star drift reducing nozzle producing a coarse spray quality. A spray pressure of 2-3 bars is recommended.

Spray Volume

Apply TACANZA ERA 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 may be compromised by reducing water volumes, where good spray coverage is difficult to achieve.

After Spraying

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

ADDITIONAL PRODUCT SAFETY INFORMATION

This section does not form part of the label.

SAFETY DATA SHEET v2.3

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

1.1 Product Identifier

Product Name: TACANZA ERA
Design Code: A19020T
Product Registration number: PCS 06551
Unique Formula Identifier (UFI): 7RC3-T0RT-H00K-2QSA

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 Ireland Limited
Block 6 Cleaboy Business Park, Old Kilmeaden Road,
Waterford
Ireland
Telephone: (051) 377203
Telefax: (051) 354748
E-mail address of person responsible for the SDS: cropsales.ie@syngenta.com

1.4 Emergency telephone number

Emergency telephone number: Syngenta +44 1484 538444
Poisons Information Centre of Ireland
Members of Public: +353 (1) 809 2166. (8.00 a.m. to 10.00 p.m. 7 days a week)
Healthcare Professionals: +353 (1) 809 2566 (24-hour service)

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, Category 1 - H317: May cause an allergic skin reaction.
Specific target organ toxicity - single exposure, Category 3, Respiratory system - H335: May cause respiratory irritation.
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 H315 H317 H318 H410	Harmful if swallowed. Harmful if inhaled. Causes skin irritation. May cause an allergic skin reaction. Causes severe eye damage. Very toxic to aquatic life with long lasting effects.
Supplemental Hazard Statements	EUH401	To avoid risks to human health and the environment comply with the instructions for use.
Precautionary Statements	P102 Prevention P261 P280 Response P302+P352 P305+P351 +P338 P312 P333+P313 P337+P313 P361+P364 P391 P501	Keep out of reach of children. Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wear protective gloves/ eye protection/ face protection. 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. Call a POISON CENTER or doctor/ physician if you feel unwell. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/ attention. Take off immediately all contaminated clothing and wash it 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

EUH401 Contains prothioconazole (ISO). 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.

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.

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 (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 - < 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): 100 M-Factor (Chronic aquatic toxicity): 100	>= 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

Requirements for storage areas and containers: 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 (ISO)	178928-70-6	TWA	1.4 mg/m ³	Supplier
benzovindiflupyr (ISO)	107295771-1	TWA	1 mg/m ³	Syngenta

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

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
	Consumers	Oral	Long-term systemic effects	0.049 mg/kg
mixture of octanoic acid- decanoic acid- N,N-dimethylamide	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) according to Regulation (EC) No. 1907/2006:

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
	Marine sediment	0.005 mg/kg
mixture of octanoic aciddecanoic acid- N,Ndimethylamide	Fresh water	0.026 mg/l
	Marine water	0.0026 mg/l
	Intermittent use/release	0.077 mg/l
	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. If airborne mists or vapors are generated, use local exhaust ventilation controls. Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit. 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. Use eye protection according to EN 166.

Hand protection

Material : Nitrile rubber

Break through time : > 480 min

Glove thickness : 0.5 mm

Remarks : 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. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

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 particle filter (EN 143)

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, self-contained breathing apparatus must be used.

Filter type : Particulates type (P)

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

Physical state :	clear to slightly turbid
Colour :	yellow to amber
Odour :	amine-like, ester-like, strong
Odour Threshold:	No data available
Melting point/range:	No data available
Boiling point/boiling range:	No data available
Flammability :	No data available
Upper explosion limit / Upper flammability limit:	No data available
Lower explosion limit / Lower flammability limit:	No data available
Flash point :	141 °C Method: Seta closed cup
Auto-ignition temperature :	370 °C
Decomposition temperature :	No data available
	pH : 5.0 Concentration: 1 % w/v
Viscosity, dynamic :	75.4 mPa.s (20 °C) 26.3 mPa.s (40 °C)

Viscosity, kinematic :	No data available
Water solubility :	No data available
Solubility in other solvents :	No data available
Partition coefficient:	
noctanol/water:	No data available
Density :	1 g/cm ³ (25 °C)
	1,007 g/cm ³ (19 °C)
Relative vapour density :	No data available
Particle size :	No data available

9.2 Other Information

Explosives :	Not explosive
Oxidizing properties :	The substance or mixture is not classified as oxidizing.
Evaporation rate :	No data available
Surface tension:	32.6 mN/m, 20 °C

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: No decomposition if used as directed.

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 (ISO):

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
	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 (ISO):

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 (ISO):

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 (ISO):

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 (ISO):

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

poly(oxy-1,2-ethanediyl), -[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 (ISO):

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 (ISO):

Reproductive toxicity - Assessment: No toxicity to reproduction

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 (ISO):

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 (ISO):

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.

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.

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 :	ErC50 (<i>Pseudokirchneriella subcapitata</i> (green algae)): 13 mg/l Exposure time: 72 h NOEC (<i>Pseudokirchneriella subcapitata</i> (green algae)): 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 (<i>Danio rerio</i> (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 (ISO):

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 :	ErC50 (<i>Raphidocelis subcapitata</i> (freshwater green alga)): 2.18 mg/l Exposure time: 72 h ErC50 (<i>Skeletonema costatum</i> (marine diatom)): 0.03278 mg/l Exposure time: 72 h EC10 (<i>Skeletonema costatum</i> (marine diatom)): 0.01427 mg/l End point: Growth rate 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: <i>Oncorhynchus mykiss</i> (rainbow trout)

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

EC10: 0.61 mg/l
Exposure time: 21 d
Species: *Daphnia magna* (Water flea)

M-Factor (Chronic aquatic toxicity): 10

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
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Ecotoxicology Assessment

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

benzovindiflupyr (ISO):

Toxicity to fish : LC50 (*Oncorhynchus mykiss* (rainbow trout)): 0.0091 mg/l
 Exposure time: 96 h
 LC50 (*Cyprinus carpio* (Carp)): 0.0035 mg/l
 Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:

EC50 (*Americamysis bahia* (Mysid shrimp)): 0.056 mg/l
 Exposure time: 96 h

Toxicity to algae :

ErC50 (*Raphidocelis subcapitata* (freshwater green alga)): > 0.89 mg/l
 Exposure time: 96 h

NOEC (*Raphidocelis subcapitata* (freshwater green alga)): 0.42 mg/l
 End point: Growth rate

Exposure time: 96 h

ErC50 (*Skeletonema costatum* (marine diatom)): 0.55 mg/l

Exposure time: 72 h

NOEC (*Skeletonema costatum* (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: *Pimephales promelas* (fathead minnow)

Test Type: Early-life Stage

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

NOEC: 0.0074 mg/l

Exposure time: 28 d

Species: *Americamysis*

EC10: 0.012 mg/l

Exposure time: 21 d

Species: *Daphnia magna* (Water flea)

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 (ISO):

Biodegradability : Result: Not readily biodegradable.

benzovindiflupyr (ISO):

Biodegradability : Result: Not readily biodegradable.

12.3 Bioaccumulative potential

Components:

prothioconazole (ISO):

Bioaccumulation : Remarks: 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 (ISO):

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 (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).

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 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

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.

Waste Code: uncleaned packagings

150110, packaging containing residues of or contaminated by hazardous substances

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)

Marine pollutant: yes

IATA (Cargo)

Marine pollutant: 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

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 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 : Not applicable

	Quantity 1	Quantity 2
E1 ENVIRONMENTAL HAZARDS	100 t	200 t

Other regulations:

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

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

Use plant protection products safely. Always read the label and product information before use.

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

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

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: Acute aquatic toxicity

Aquatic Chronic: Chronic aquatic toxicity

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:

Eye Irrit. 2	H319
Skin Sens. 1	H317
STOT SE 3	H335
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

Classification procedure:

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