



Kayak[®]

syngenta[®]

GROUP 9 FUNGICIDE



An emulsifiable concentrate formulation containing 300 g/l cyprodinil.
For use against eyespot and powdery mildew on winter and spring barley.

FOR PROFESSIONAL USE ONLY

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

An emulsifiable concentrate formulation containing 300 g/l cyprodinil

Warning

May cause an allergic skin reaction.

Very toxic to aquatic life with long lasting effects.

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

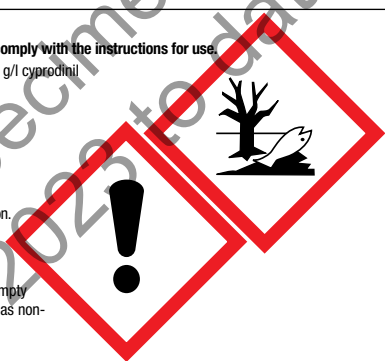
Wear protective gloves.

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

Take off 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 clean containers which can be disposed of as non-hazardous waste.



PCS No: 05476 UFI: XXX5-H0P0-C00U-86QA

IN CASE OF TOXIC OR TRANSPORT EMERGENCY RING +44 (0) 1484 538444 ANYTIME

PROTECT FROM FROST.

STORE IN A COOL, DRY PLACE

Product names marked ® or ™, the ALLIANCE FRAME[®], the SYNGENTA Logo and the PURPOSE ICON[®] are Trademarks of a Syngenta Group Company



5 litres

5 391513 811159

Lxxxxxx IREL/10B PPE xxxxxxx



Kayak[®]

CONDITIONS OF USE

FOR USE ONLY AS AN AGRICULTURAL FUNGICIDE

Crops	Maximum individual dose (litres/product/ha)	Maximum number of treatments	Latest time of application
Barley	1.5	2 per crop	Up to and including first awns visible stage (GS49)

SAFETY PRECAUTIONS

(a) Operator protection

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) AND SUITABLE PROTECTIVE GLOVES when handling the concentrate.

WASH SPLASHES from skin and eye immediately.

WASH HANDS AND EXPOSED SKIN before eating, drinking or smoking and after work.

(b) Environmental protection

To protect aquatic organisms, respect an 5 metre unsprayed buffer zone distance to surface water bodies. 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

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

DO NOT RE-USE CONTAINER FOR ANY PURPOSE.

RINSE CONTAINER THOROUGHLY by using an integrated pressure rinsing devise or manually rinsing 3 times.

Add washings to sprayer at time of filling and dispose of safely.

Authorisation Holder	Marketing Company
Syngenta UK Limited CPC4, Capital Park, Fulbourn, Cambridge, CB21 5XE Tel: +44 (0) 1223 883400	Syngenta Ireland Limited Block 6, Cleaboy Business Park, Old Kilmeaden Road, Waterford, Ireland Tel: (051) 377203

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.

KAYAK® is an emulsifiable concentrate formulation containing 300 g/l cyprodinil for use as a fungicide on winter and spring barley.

DISEASES CONTROLLED

Eyespot (*Pseudocercospora herpotrichoides*)

Powdery mildew (*Erysiphe graminis*)

CROP SPECIFIC INFORMATION

Crops

All varieties of winter and spring barley.

Timing

Treatment at early stages of disease development will ensure the best results. Further applications may be needed if disease attack is prolonged.

Eyespot : For best control of eyespot spray KAYAK before or during the period of stem extension in the spring (GS 30-32). Control of eyespot may be reduced when very dry conditions follow application.

Powdery Mildew: Application at first signs of disease is recommended.

For Powdery mildew control use early in the spray programme to make best use of the protectant activity. Use with an eradicant partner such as Corbel for established infections.

Rates of use

Apply 1.5 litres of product per hectare. With a maximum treatment of 3 litres product per hectare (2 treatments per crop).

The latest time of application for KAYAK is before first spikelet of inflorescence just visible stage.

MIXING AND SPRAYING

Make sure the sprayer is set to give an even application at the correct volume. In all cases add KAYAK to the spray tank first, followed by any additional products. Fill the spray tank with half the required volume of clean water and start agitation. Add the required amount of KAYAK to the spray tank. Agitate the mixture thoroughly before use and continue agitation during spraying. Thoroughly wash all spray equipment with water immediately after use.

Wash out containers thoroughly, preferably using an integrated pressure rinsing device, or manually rinse three times. Add washings to the sprayer at the time of filling. Complete filling to the required volume and continue to agitate throughout the spraying operation.

Do not leave the spray liquid in the sprayer for long periods (such as during meal breaks or overnight).

Spray Application

Apply KAYAK in 200 litres of water per hectare using a tractor-mounted sprayer and a medium spray as defined by BCPC. A spray pressure of 2-3 bars is recommended.

Thoroughly wash all spray equipment with water after use.

RESISTANCE MANAGEMENT

KAYAK contains the aniline-pyrimidine fungicide cyprodinil. To reduce the risk of diseases developing resistance to cyprodinil, KAYAK should be used as part of a resistance management strategy that includes fungicides with a different mode of action. For specific advice please refer to timing section in CROP SPECIFIC INFORMATION section above.

COMPATIBILITY

Kayak is compatible with Corbel. For further information on compatibilities contact Syngenta.

1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY/ UNDERTAKING**1.1 Product Identifier**

Trade name: KAYAK

Design code: A14325E

Product Registration Number: PCS 05476

Unique Formula Identifier(UFI): XKX5-HOP0-C00U-86QA

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)**

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.

2.2 Label elements**Labelling: Regulation (EC) No. 1272/2008**

Hazard pictograms		
Signal Word	Warning	
Hazard Statements	H317 H410	May cause an allergic skin reaction. Very toxic to aquatic life with long lasting effects.
Precautionary Statements	P261 P280 P333+P313 P362+P364 P391 P501	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wear protective gloves. If skin irritation or rash occurs: Get medical advice/attention. Take off 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:

cyprodinil (ISO)

Additional Labelling

EUH401 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)
cyprodinil (ISO)	121552-61-2 612-242-00-X	Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	>= 25 - < 30
benzenesulfonic acid, C10-13-alkyl derivs., calcium salts	1335202-81-7 01-2119560592-37	Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 3; H412	>= 3 - < 10
2-ethylhexan-1-ol	104-76-7 203-234-3 01-2119487289-20	Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory system)	>= 1 - < 10
poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-	99734-09-5	Aquatic Chronic 3; H412	>= 1 - < 2.5

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. Recommended storage temperature: > 0 °C

Further information on storage stability: Physically and chemically stable for at least 2 years when stored in the original unopened sales container at ambient temperatures. Do not use product if crystals are observed - risk of spray nozzle blockage. Contact supplier for advice.

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
cyprodinil (ISO)	121552-61-2	TWA	5 mg/m ³	Syngenta
2-ethylhexan-1-ol	104-76-7	TWA	1 ppm 5.4 mg/m ³	2017/164/EU
	Further information: Indicative			
		OELV - 8 hrs (TWA)	1 ppm 5.4 mg/m ³	IE OEL

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

Substance name	End Use	Exposure routes	Potential health effects	Value
castor oil, ethoxylated	Workers	Inhalation	Long-term systemic effects	16.4 mg/m ³
	Workers	Dermal	Long-term systemic effects	4.67 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	2.9 mg/m ³
	Consumers	Dermal	Long-term systemic effects	1.67 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	1.67 mg/kg bw/day
benzenesulfonic acid, C10-13-alkyl derivs., calcium salts	Consumers	Oral	Long-term systemic effects	89 mg/kg
	Consumers	Dermal	Long-term systemic effects	85 mg/kg
	Workers	Dermal	Long-term systemic effects	1.7 mg/kg
2-ethylhexan-1-ol	Consumers	Ingestion	Long-term systemic effects	1.1 mg/kg
	Workers	Dermal	Long-term systemic effects	23 mg/kg
	Consumers	Dermal	Long-term systemic effects	11.4 mg/kg
	Workers	Inhalation	Acute local effects	106.4 mg/m ³
	Consumers	Inhalation	Acute local effects	53.2 mg/m ³
	Workers	Inhalation	Long-term systemic effects	53.2 mg/m ³
	Consumers	Inhalation	Long-term systemic effects	2.3 mg/m ³
	Workers	Inhalation	Long-term local effects	8.3 mg/m ³
	Consumers	Inhalation	Long-term local effects	5 mg/m ³

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

Substance name	Environmental Compartment	Value
castor oil, ethoxylated	Fresh water sediment	0.0129 mg/kg dry weight (d.w.)
	Marine sediment	0.00129 mg/kg dry weight (d.w.)
	Soil	0.00258 mg/kg dry weight (d.w.)
benzenesulfonic acid, C10-13- alkyl derivs., calcium salts	Fresh water	0.023 mg/l
	Marine water	0.002 mg/l
	Fresh water sediment	0.174 mg/kg
	Marine sediment	0.017 mg/kg
	Soil	0.62 mg/kg
2-ethylhexan-1-ol	Fresh water	0.017 mg/l
	Marine water	0.0017 mg/l
	Intermittent use/release	0.17 mg/l
	Fresh water sediment	28 mg/kg
	Marine sediment	0.028 mg/kg
	Sewage treatment plant	10 mg/kg
Soil	0.047 mg/kg	

Substance name	Environmental Compartment	Value
	Fresh water	0.018 mg/l
	Marine water	0.0018 mg/l
	Intermittent use/release	0.18 mg/l
	Fresh water sediment	0.16 mg/kg
	Marine sediment	0.016 mg/kg
	Soil	0.09 mg/kg
	Sewage treatment plant	10 mg/l

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: No special protective equipment required.

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 : No personal respiratory protective equipment normally required.

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

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.

Environmental exposure controls

Water: 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state : liquid, clear

Colour : light yellow to brown

Odour : No data available

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 : 104 °C. Method: Pensky-Martens closed cup

Auto-ignition temperature : 420 °C
Decomposition temperature : No data available
pH : 4 - 8 (20 °C). Concentration: 1 % w/v
Viscosity, dynamic : 61.3 mPa.s (20 °C)
24.5 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
Vapour pressure : No data available
Density : 1.012 g/cm³ (20 °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: 34.6 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:	Acute toxicity estimate (Rat): > 4 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:

cyprodinil (ISO):

Acute oral toxicity :	LD50 (Rat, female): 2,500 mg/kg
Acute inhalation toxicity :	LC50 (Rat, male and female): > 1.2 mg/l Exposure time: 4 h

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

Acute dermal toxicity :

benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:

Acute oral toxicity : LD50 (Rat): 4,445 mg/kg
 Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
 Assessment: The substance or mixture has no acute dermal toxicity

2-ethylhexan-1-ol:

Acute oral toxicity : LD50 (Rat): 2,047 mg/kg
 Acute inhalation toxicity : LC50 (Rat): > 0.89 - 5.3 mg/l
 Exposure time: 4 h
 Test atmosphere: dust/mist
 Assessment: The component/mixture is moderately toxic after short term inhalation.

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

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

Skin corrosion/irritation	Serious eye damage/eye irritation
Product: Species: Rabbit Result: Mild skin irritation Components: cyprodinil (ISO): Species: Rabbit Result: Irritating to skin. benzenesulfonic acid, C10-13-alkyl derivs., calcium salts: Species: Rabbit Result: Irritating to skin. 2-ethylhexan-1-ol: Species: Rabbit Result: Irritating to skin.	Product: Species: Rabbit Result: No eye irritation Components: cyprodinil (ISO): Species : Rabbit Result : No eye irritation benzenesulfonic acid, C10-13-alkyl derivs., calcium salts: Species : Rabbit Result : Risk of serious damage to eyes. 2-ethylhexan-1-ol: Species : Rabbit Result : Irritation to eyes, reversing within 21 days
Respiratory or skin sensitisation	Germ cell mutagenicity
Product: Test Type : Buehler Test Species : Guinea pig Result : May cause sensitisation by skin contact. Components: cyprodinil (ISO): Species : Guinea pig Result : The product is a skin sensitiser, sub-category 1B.	Components: cyprodinil (ISO): Germ cell mutagenicity- Assessment: Animal testing did not show any mutagenic effects. 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
Carcinogenicity	STOT - single exposure
Components: cyprodinil (ISO): Carcinogenicity - Assessment: No evidence of carcinogenicity in animal studies.	Components: 2-ethylhexan-1-ol: Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.
Reproductive toxicity	STOT - repeated exposure
Components: cyprodinil (ISO): Reproductive toxicity - Assessment: No toxicity to reproduction	Components: cyprodinil (ISO): Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

11.2 Information on other hazards

Endocrine disrupting properties

Product:

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

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Product:

Toxicity to fish :	LC50 (<i>Oncorhynchus mykiss</i> (rainbow trout)): 6.8 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates:	EC50 (<i>Daphnia magna</i> (Water flea)): 0.37 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants:	ErC50 (<i>Raphidocelis subcapitata</i> (freshwater green alga)): 12 mg/l Exposure time: 96 h
Components:	
cyprodinil (ISO):	
Toxicity to fish :	LC50 (<i>Oncorhynchus mykiss</i> (rainbow trout)): 2.41 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates:	EC50 (<i>Daphnia magna</i> (Water flea)): 0.033 mg/l Exposure time: 48 h LC50 (<i>Americamysis</i>): 0.0081 mg/l Exposure time: 96 h
Toxicity to algae/aquatic plants:	ErC50 (<i>Raphidocelis subcapitata</i> (freshwater green alga)): 5.2 mg/l Exposure time: 72 h NOEC (<i>Raphidocelis subcapitata</i> (freshwater green alga)): 0.4 mg/l End point: Growth rate Exposure time: 72 h EC50 (<i>Skeletonema costatum</i> (marine diatom)): 1.78 mg/l Exposure time: 72 h NOEC (<i>Skeletonema costatum</i> (marine diatom)): 0.541 mg/l Exposure time: 72 h
M-Factor (Acute aquatic toxicity) :	10
Toxicity to microorganisms :	EC50 (activated sludge): > 100 mg/l Exposure time: 3 h
Toxicity to fish (Chronic toxicity):	NOEC: 0.0406 mg/l Exposure time: 34 d Species: <i>Cyprinodon variegatus</i> (sheepshead minnow)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 0.0082 mg/l Exposure time: 21 d Species: <i>Daphnia magna</i> (Water flea) NOEC: 0.0019 mg/l Exposure time: 28 d Species: <i>Americamysis</i>
M-Factor (Chronic aquatic toxicity):	10
benzenesulfonic acid, C10-13-alkyl	derivs., calcium salts:
Toxicity to fish :	LC50 (Fish): > 1 - < 10 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates:	EC50 (<i>Daphnia magna</i> (Water flea)): 2.9 mg/l Exposure time: 48 h Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants: ErC50 (*Raphidocelis subcapitata* (freshwater green alga)): 29 mg/l
Exposure time: 96 h

Remarks: Based on data from similar materials
NOEC (*Raphidocelis subcapitata* (freshwater green alga)): 0.5 mg/l
Exposure time: 96 h

Toxicity to fish (Chronic toxicity):

Remarks: Based on data from similar materials
NOEC: 0.23 mg/l
Exposure time: 72 d
Species: *Oncorhynchus mykiss* (rainbow trout)
Remarks: Based on data from similar materials

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

NOEC: 1.18 mg/l
Exposure time: 21 d
Species: *Daphnia magna* (Water flea)
Remarks: Based on data from similar materials

2-ethylhexan-1-ol:

Toxicity to fish :

LC50 (*Leuciscus idus* (Golden orfe)): 17.1 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:

EC50 (*Daphnia magna* (Water flea)): 39 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants:

EC50 (*Desmodesmus subspicatus* (green algae)): 16.6 mg/l
Exposure time: 72 h

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

Toxicity to fish :

LC50 (*Danio rerio* (zebra fish)): 21 mg/l
Exposure time: 96 h

Ecotoxicology Assessment

Chronic aquatic toxicity :

Harmful to aquatic life with long lasting effects.

12.2 Persistence and degradability

Components:

cyprodinil (ISO):

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 141 d

Remarks: Product is not persistent.

benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:

Biodegradability : Result: Readily biodegradable.

2-ethylhexan-1-ol:

Biodegradability : Result: Readily biodegradable.

12.3 Bioaccumulative potential

Components:

cyprodinil (ISO):

Bioaccumulation : Remarks: Does not bioaccumulate.

Partition coefficient: noctanol/water: log Pow: 4.0 (25 °C)

12.4 Mobility in soil

Components:

cyprodinil (ISO):

Distribution among environmental compartments: Remarks: Cyprodinil has low to slight mobility in soil.

Stability in soil : Dissipation time: 49 d

Percentage dissipation: 50 % (DT50)

Remarks: Product is not persistent.

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:**cyprodinil (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).

2-ethylhexan-1-ol:

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).

12.6 Other adverse effects**Product:**

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

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 dangerous substances

SECTION 14. TRANSPORT INFORMATION**14.1 UN number**

ADR	RID	IMDG	IATA
UN 3082	UN 3082	UN 3082	UN 3082

14.2 UN proper shipping name

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

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

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

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

14.3 Transport hazard class(es)

ADR	ADR	RID	IMDG	IATA
9	9	9	9	9

14.4 Packing group

ADR	RID	IMDG
Packing group: III Classification Code: M6 Hazard Identification Number: 90 Labels: 9 Tunnel restriction code: (-)	Packing group: III Classification Code: M6 Hazard Identification Number: 90 Labels: 9	Packing group: III Labels: 9 EmS Code: F-A, S-F
IATA (Cargo)	IATA (Passenger)	
Packing instruction (cargo aircraft): 964 Packing instruction (LQ): Y964 Packing group: III Labels: Flammable Miscellaneous	Packing instruction (passenger aircraft): 964 Packing instruction (LQ): Y964 Packing group: III Labels: Flammable Miscellaneous	
Remarks: This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids		

14.5 Environmental hazards

ADR	RID	IATA (Cargo)
Environmentally hazardous: yes	Environmentally hazardous: yes	Environmentally hazardous: yes
IMDG	IATA (Passenger)	
Marine pollutant: yes	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 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 methanol (Number on list 69) methylcyclohexane

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

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.

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

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

H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H318: Causes serious eye damage.
H319: Causes serious eye irritation.
H332: Harmful if inhaled.
H335: May cause respiratory irritation
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
Eye Irrit.: Eye irritation
Skin Irrit.: Skin irritation
Skin Sens.: Skin sensitisation
STOT SE: Specific target organ toxicity - single exposure
2017/164/EU : Europe. Commission Directive 2017/164/EU establishing a fourth list of indicative occupational exposure limit values
IE OEL : Ireland. List of Chemical Agents and Occupational Exposure Limit Values - Schedule 1
Syngenta: Syngenta Occupational Exposure Limit
2017/164/EU / TWA : Limit Value - eight hours
IE OEL / OELV - 8 hrs (TWA) : Occupational exposure limit value (8-hour reference period)
Syngenta / TWA: Time weighted average

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; SVHC - Substance of Very High Concern; 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:

Skin Sens. 1	H317
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

Classification procedure:

Based on product data or assessment
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.