



syngenta.

GROUP **3** FUNGICIDE



ERA™ Era is a fungicide for the control of stem-base, foliar and ear disease in winter and spring wheat, durum wheat, triticale, winter rye, winter and spring barley and for disease control in winter oilseed rape.

FOR PROFESSIONAL USE ONLY

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

Contains: Prothioconazole 300 g/L as Emulsifiable Concentrate (EC).

Danger.

Harmful if swallowed.

Causes skin irritation.

Causes serious eye damage.

Very toxic to aquatic life with long lasting effects.

Wash thoroughly after handling.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

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.

Immediately call a POISON CENTER or doctor/physician.

If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash before reuse. Store locked up.

Collect spillage.

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



PCS No: 06265 UFI: QNHM-30K9-P90U-FPQ4

24 hour emergency number: 0032 14 58 45 43

Production date / Batch number: see packaging

PROTECT FROM FROST

Lxxxxxx IREL/10A PPE xxxxxxx

Authorisation Holder: CAC Chemical GmbH, Böttgerstrasse 12, D-20148 Hamburg, Germany

Marketing Company: Syngenta Ireland Ltd., Block 6, Cleaboy Business Park, Old Kilmelane Road, Waterford, Ireland, Tel: (051) 377203

5 litres

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

SAFETY PRECAUTIONS**Operator Protection**

Wear protective gloves/protective clothing/eye protection/face protection.
Do not eat, drink or smoke when using this product.

Environmental Protection

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

Storage and Disposal

Do not re-use container for any other purpose and dispose of safely.
Keep away from food, drink, and animal feeding stuffs.
Keep out of reach of children.
Dispose of contents/container to a licensed hazardous waste disposal contractor or collection site except for triple rinsed empty containers which can be disposed of as non-hazardous waste.
Triple rinsed containers should be punctured to prevent re-use.

IMPORTANT INFORMATION

For use only as an agricultural fungicide

Crop	Max single dose	Max.no.of applications	Max. total dose	Latest time of application
Barley, Wheat, Durum wheat, Triticale	0.65 L/ha		1.3 L/ha	Before end of flowering stage (GS69)
Rye	0.65 L/ha	-	1.3 L/ha	Before beginning of flowering stage (GS61)
Oilseed rape	0.6 L/ha		1.2 L/ha	Before end of flowering (GS69)

READ 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

Method of application: Tractor mounted/trailed sprayer

Apply ERA™ in 200 – 400 liters of water per hectare. 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.

DIRECTIONS FOR USE

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

ERA™ is a triazolinthione fungicide recommended for control of a wide range of diseases on winter and spring barley, winter and spring wheat, durum wheat, triticale, winter rye, and for disease control in winter oilseed rape.

Diseases controlled: Cereals

	Wheat	Barley	Spelt	Triticale	Rye
Eyespot (<i>Oculimacula spp</i>)	R	R	R	R	R
Septoria Leaf Blotch (<i>Mycosphaerella graminicola</i>)	MC	-	MC	MC	MC
Glume Blotch (<i>Stagonospora nodorum</i>)	MC	-	MC	-	MC
Powdery Mildew (<i>Blumeria graminis</i>)	C	C	C	C	C
Yellow Rust	C	C	C	C	
Brown Rust	MC	C	MC	C	C
Crown Rust	-	-	-	-	-
Tan Spot	MC	-	MC	-	-
Fusarium Ear blight	MC	MC	MC	-	-
Leaf Blotch (<i>Rhynchosporium secalis</i>)	-	C	-	C	C
Net Blotch (<i>Pyrenophora teres</i>)	-	C		-	-

Disease controlled: Oil seed rape

	Oil seed rape
Phoma leaf spot/stem canker	C
<i>Sclerotinia</i> stem rot	MG
Light leaf spot	MC

C = control, MC = moderate control, R = reduction

Resistance strategy

Repeated application of ERA™ alone should not be used on the same crop against a high-risk pathogen such as cereal powdery mildew. Tank-mixtures or alternation with fungicides having a different mode of action (e.g. morpholines) have been shown to protect against the development of resistant forms of disease.

Take all precautionary measures to reduce the selection pressure for insensitive *Septoria tritici* strains (e.g. tank-mix with product having a different mode of action which is active against *Septoria*). Consult your advisor for up to date guidance regarding current resistance status and a strategy for preventing and managing resistance in the cereal and oilseed rape pathogens listed on the label.

The Fungicide Resistance Action Committee (FRAC) produces recommendations that may be consulted for additional information.

Strains of light leaf spot resistant to azole fungicides are known to exist. To avoid development of resistance apply product protectively in response to disease forecasts. Where possible, when light leaf spot is present, avoid the use of azole based fungicides when targeting other diseases such as *Sclerotinia* at mid flowering.

Crops

ERA™ may be used on all commercial varieties of winter and spring barley, winter and spring wheat, durum wheat, triticale, winter rye and winter oilseed rape.

Mixing

Half fill the spray tank with clean water and start the re-circulation system. Pour the required quantity of product into the spray tank and continue agitation. Top up the spray tank with water to the required level. Continue agitation until spraying is completed. Spray immediately after mixing.

Spray tank clean-out

It is important that the spray tank, boom, hoses filters and nozzles are thoroughly washed out to remove all traces of ERA™ immediately after spraying and before the sprayer is used again:

1. Drain sprayer completely, then wash out tank boom and hoses with clean water. Drain again.
2. Fill the tank with clean water. Flush through boom and hoses then leave sprayer for 10 minutes with agitation on. Then drain completely.
3. Flush the tank, boom and hoses with clean water twice. Ensure any spray contamination on the outside of the sprayer is removed by washing in clean water.

CONDITIONS OF SUPPLY

All goods supplied by us are of a high grade and we believe them to be suitable but, as we cannot exercise control over their storage, handling, mixing or use, or the weather conditions before, during or after application which may affect the performance of the goods, all conditions and warranties, statutory or otherwise, as to the quality or fitness for any purpose of our goods are excluded. No responsibility will be accepted by us or re-sellers for any failure in performance, damage or injury whatsoever arising from their storage, handling, application or use. These conditions cannot be varied by our staff or agents whether or not they supervise or assist in the use of such goods.

ERA™ is the trademark owned by Syngenta

SAFETY DATA SHEET v1.0

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

1.1 Product Identifier

Trade name : ERA

Design code : A23248B

Product Registration Number : PCS_06265

Unique Formula Identifier (UFI): QNHM-30K9-P90U-FPQ4

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)

Acute toxicity, Category 4 - H302: Harmful if swallowed.

Skin irritation, Category 2 - H315: Causes skin irritation.


Serious eye damage, Category 1 - H318: Causes serious eye damage.

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 H315 H318 H410	Harmful if swallowed. Causes skin irritation. Causes serious eye damage. Very toxic to aquatic life with long lasting effects.
Precautionary Statements	P301+P312 +P330 P302+P352 P305+P351 +P338+P310 P332+P313 P362+P364 P391 P405	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. 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. Immediately call a POISON CENTER/ doctor. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Collect spillage. Store locked up.

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)
2-pyrrolidinone, 1-butyl-	3470-98-2 222-437-8 01-2120062728-48- xxxx	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Irrit. 2; H319	>= 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	>= 30 - < 50
N-(n-octyl)-2-pyrrolidone	2687-94-7 403-700-8 613-098-00-0 01-0000015335-74- xxxx	Skin Corr. 1B; H314 Aquatic Chronic 2; H411	>= 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 tight-ly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs.

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

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

Substance name	End Use	Exposure routes	Potential health effects	Value
2-pyrrolidinone, 1-butyl-	Workers	Inhalation	Long-term systemic effects	24.1 mg/m ³
	Workers	Dermal	Long-term systemic effects	10 mg/kg
	Consumers	Inhalation	Long-term systemic effects	4.29 mg/m ³
	Consumers	Dermal	Long-term systemic effects	5 mg/kg

Substance name	End Use	Exposure routes	Potential health effects	Value
	Consumers	Oral	Long-term systemic effects	4 mg/kg
	Consumers	Oral	Acute systemic effects	4 mg/kg
N-(n-octyl)-2-pyrrolidone	Workers	Inhalation	Long-term systemic effects	17.45 mg/m ³
	Workers	Dermal	Long-term systemic effects	2.5 mg/kg
	Consumers	Inhalation	Long-term systemic effects	5.75 mg/m ³
	Consumers	Dermal	Long-term systemic effects	1.25 mg/kg
	Consumers	Oral	Long-term systemic effects	1.25 mg/kg

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

Substance name	Environmental Compartment	Value
2-pyrrolidinone, 1-butyl-	Fresh water	4 mg/l
	Freshwater - intermittent	1 mg/l
	Marine water	0.4 mg/l
	Marine water - intermittent	0.1 mg/l
	Sewage treatment plant	0.62 mg/l
	Fresh water sediment	20.168 mg/kg
	Marine sediment	2.017 mg/kg
N-(n-octyl)-2-pyrrolidone	Soil	1.68 mg/kg
	Fresh water	0.091 mg/l
	Marine water	0.0091 mg/l
	Intermittent use/release	0.122 mg/l
	Sewage treatment plant	170 mg/l
	Fresh water sediment	3.14 mg/kg
	Marine sediment	0.314 mg/kg
	Soil	0.164 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: Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded. Tightly fitting safety goggles. Face-shield. Equipment should conform to EN 166

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. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 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

Colour : No data available

Odour : aromatic

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 : 152 °C

Auto-ignition temperature : No data available

Decomposition temperature : No data available

pH : 5 - 6, Concentration: 1 %

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 g/cm³

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

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

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

Acute toxicity

Product:

Acute oral toxicity: Acute toxicity estimate: 1,000 mg/kg
Method: Calculation method

Components:

2-pyrrolidinone, 1-butyl-:

Acute oral toxicity : Assessment: The component/mixture is moderately toxic after single ingestion.

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

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

Skin corrosion/irritation

Product:

Result : Irritating to skin.

Components:

2-pyrrolidinone, 1-butyl-:

Result : Irritating to skin.

prothioconazole (ISO):

Species : Rabbit

Result : No skin irritation

N-(n-octyl)-2-pyrrolidone:

Species : Rabbit

Result : Corrosive after 3 minutes to 1 hour of exposure

Serious eye damage/eye irritation

Product:

Result : Risk of serious damage to eyes.

Components:

2-pyrrolidinone, 1-butyl-:

Result : Eye irritation

prothioconazole (ISO):

Species : Rabbit

Result : No eye irritation

N-(n-octyl)-2-pyrrolidone:

Species : Rabbit

Result : Irreversible effects on the eye

Respiratory or skin sensitisation

Components:

prothioconazole (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.

N-(n-octyl)-2-pyrrolidone:

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

Carcinogenicity

Components:

prothioconazole (ISO):

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

Reproductive toxicity

Components:

prothioconazole (ISO):

Reproductive toxicity - Assessment: No toxicity to reproduction

N-(n-octyl)-2-pyrrolidone:

Reproductive toxicity - Assessment: No toxicity to reproduction

STOT - single exposure

Components:

prothioconazole (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.

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

Components:

prothioconazole (ISO):

Toxicity to fish :

LC50 (*Oncorhynchus mykiss* (rainbow trout)): 1.83 mg/l
Exposure time: 96 h

Toxicity to daphnia and

other aquatic invertebrates:

EC50 (*Daphnia magna* (Water flea)): 1.3 mg/l Exposure time: 48 h
EC50 (*Raphidocelis subcapitata* (freshwater green alga)): 2.1 mg/l
Exposure time: 72 h
ErC50 (*Skeletonema costatum* (marine diatom)): 0.03278 mg/l

Toxicity to algae/aquatic plants:

	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: <i>Daphnia magna</i> (Water flea)
M-Factor (Chronic aquatic toxicity):	1
N-(n-octyl)-2-pyrrolidone:	
Toxicity to fish :	LC50 (<i>Danio rerio</i> (zebra fish)): > 12.8 - < 44.8 mg/l
	Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates:	EC50 (<i>Daphnia magna</i> (Water flea)): 12.2 mg/l
	Exposure time: 48 h
Toxicity to algae/aquatic plants:	ErC50 (<i>Desmodesmus subspicatus</i> (green algae)): 19 mg/l
	Exposure time: 72 h
Toxicity to microorganisms :	EC50 (<i>Pseudomonas putida</i>): 460 mg/l
	Exposure time: 0.5 h
Toxicity to fish (Chronic toxicity):	NOEC: 0.91 mg/l
	Exposure time: 35 d
	Species: Fish
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 2.5 mg/l
	Exposure time: 21 d
	Species: <i>Daphnia magna</i> (Water flea)

12.2 Persistence and degradability

Components:

prothioconazole (ISO):

Biodegradability : Result: Not readily biodegradable.

N-(n-octyl)-2-pyrrolidone:

Biodegradability : Result: Readily biodegradable.

12.3 Bioaccumulative potential

Components:

prothioconazole (ISO):

Bioaccumulation : Remarks: Does not bioaccumulate.

12.4 Mobility in soil

Components:

prothioconazole (ISO):

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

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).

N-(n-octyl)-2-pyrrolidone:

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 dangerous substances

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. (PROTHIOCONAZOLE)

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

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

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

14.3 Transport hazard class(es)

ADR	RID	IMDG	IATA
9	9	9	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	RID
	Environmentally hazardous: yes	Environmentally hazardous: yes
IMDG	IATA (Cargo)	IATA (Passenger)
Marine pollutant: yes	Environmentally hazardous: 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 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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59): Not applicable

Regulation (EC) No 1005/2009 on substances that : Not applicable deplete the ozone layer

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.

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	Full text of other abbreviations
H302: Harmful if swallowed.	Acute Tox.: Acute toxicity
H314: Causes severe skin burns and eye damage.	Aquatic Acute: Short-term (acute) aquatic hazard
H315: Causes skin irritation.	Aquatic Chronic: Long-term (chronic) aquatic hazard
H319: Causes serious eye irritation.	Eye Irrit.: Eye irritation
H400: Very toxic to aquatic life.	Skin Corr.: Skin corrosion
H410: Very toxic to aquatic life with long lasting effects.	Skin Irrit.: Skin irritation
H411: Toxic to aquatic life with long lasting effects.	

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; IECS - 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; OEPS - 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:

Acute Tox. 4	H302
Skin Irrit. 2	H315
Eye Dam. 1	H318
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

Classification procedure:

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