



# Era™

syngenta®

**GROUP 3 FUNGICIDE**



### Environmental protection

Crops/situations with 5m buffer zone: Since there is a risk to aquatic life from use, users not applying the statutory buffer zone must either themselves carry out or ensure that someone else has carried out a Local Environment Risk Assessment for Pesticides (LERAP) on their behalf before each spraying operation from a horizontal boom sprayer. Users must not allow direct spray from horizontal boom sprayers to fall within 5m of the top of the bank of any static or flowing waterbody or within 1m of a ditch which is dry at the time of application (these distances to be measured as set out in the guidance documents available from HSE Chemical Regulation Division's website and any amendments that are made to it) unless:

- (a) The LERAP indicates that a narrower buffer zone will be sufficient; and
- (b) Any measures indicated by the LERAP as justifying the narrower buffer zone are complied with in full and in accordance with any conditions applicable to them. Spray must be aimed away from water.

The results of the LERAP must be recorded in written form and must be available for a period of three years for inspection to any person entitled to exercise enforcement powers under or in connection with the Plant Protection Products Regulations 2011 or the Plant Protection Products (Sustainable Use) Regulations 2012. (An electronic record will satisfy the requirement for a written record, providing it is similarly available for inspection and can be copied). Detailed guidance on LERAPs and how to conduct a LERAP are contained in the guidance documents available from HSE Chemicals Regulation Division's website. All LERAPs must be carried out in accordance with this Guidance and any amendments that are made to it.

### Storage and disposal

KEEP IN ORIGINAL CONTAINER tightly closed in a safe place.  
WASH OUT CONTAINER THOROUGHLY, empty washings into spray tank and dispose of safely.  
DO NOT RE-USE CONTAINER for any purpose.

L1113798 GBRI/01C PPE 4198865

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**Product reg. no:** MAPP 19792 **UFI:** QNHM-30K9-P90U-FP04  
Contains 300 g/L Prothioconazole in an emulsion concentrate.

A triazolothione fungicide for the control of stem-base, foliar and ear disease in winter and spring wheat, winter and spring durum wheat, winter and spring rye, winter and spring barley, winter and spring triticale and for disease control in winter and spring oilseed rape.

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

**Production date/ Batch number:** see packaging  
**24 hour emergency number:** 0032 14 58 45 45

Authorisation holder	Marketing Company
CAC Chemical GmbH Bottgerstrasse 12, 20148, Hamburg, Germany	Syngenta UK Limited, CP4, Capital Park, Fulbourn, Cambridge, CB21 5XE TEL: +44 (0) 1223 883400

### SAFETY PRECAUTIONS

#### Operator protection

Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment: Operators must wear suitable protective clothing (coveralls), suitable protective gloves and face protection (faceshield) when handling the concentrate. However, engineering controls may replace personal protective equipment if a COSHH assessment shows they provide an equal or higher standard of protection. WHEN USING DO NOT EAT DRINK OR SMOKE.

IF YOU FEEL UNWELL, seek medical advice (show label where possible).  
WASH HANDS AND EXPOSED SKIN before eating and drinking and after work

# 5 litres

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



ERA™ Contains 300 g/L Prothioconazole in an emulsion concentrate

**Danger**

**Harmful if swallowed.**

**Causes skin irritation.**

**Causes serious eye damage.**

**Toxic to aquatic life with long lasting effects.**

Wash hands thoroughly after handling.

Do not eat, drink or smoke when using this product.

Avoid release to the environment.

Wear protective gloves / protective clothing / eye protection / face protection.

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

IF ON SKIN: Wash with plenty of 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.

Rinse mouth.

If skin irritation occurs: Get medical advice / attention.

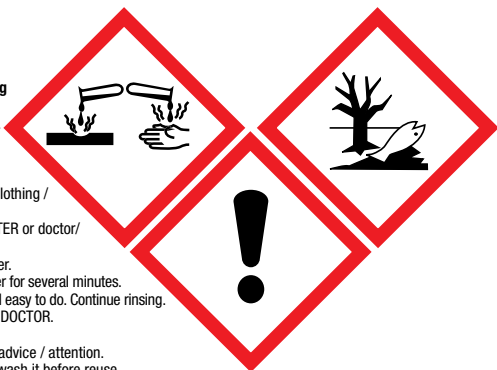
Take off contaminated clothing and wash it before reuse.

Collect spillage.

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

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

**MAPP 19792 UFI: QNHM-30K9-P90U-FPQ4**



**IMPORTANT INFORMATION**

FOR USE ONLY AS A PROFESSIONAL FUNGICIDE

<b>Crop</b>	Wheat, durum wheat, barley, rye, triticale, oilseed rape.
<b>Maximum individual dose:</b>	Wheat, durum wheat, barley, rye, triticale: 0.65 L product/ha Oilseed rape: 0.6 L product/ha
<b>Maximum total dose:</b>	Wheat, durum wheat, barley, rye, triticale: 1.3 L product/ha Oilseed rape: 1.2 L product/ha
<b>Latest time of application:</b>	Wheat, durum wheat, Barley, Triticale, Rye: Anthesis completed Oilseed rape: End of flowering

**Other specific restrictions:**

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

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).

In winter oilseed rape, applications must not be made between September 20th and March 20th. Only a single application to winter oilseed rape in autumn before 20th September is permitted.

For use on barley, wheat, rye and triticale, a preharvest interval of 35 days must be observed.

For use on barley, wheat, rye and triticale, a 14 day interval must be observed between applications.

For use on oilseed rape, a 21 day interval must be observed between applications.

**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**

## 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.

## DISEASES CONTROLLED

### Wheat, durum wheat

Eyespot, *Septoria* (leaf and glume blotch), powdery mildew, yellow rust, brown rust\*, tan spot\*, ear disease complex – *Fusarium* ear blight\* (reduction of deoxynivalenol) and reduction of sooty moulds.

### Barley

Eyespot, powdery mildew, yellow rust, brown rust, ear disease complex – *Fusarium* ear blight\* and reduction of sooty moulds, *Rhynchosporium* and net blotch.

### Rye

Eyespot, powdery mildew, brown rust and *Rhynchosporium*.

### Triticale

*Septoria* (leaf and glume blotch), brown rust\*, yellow rust, *Rhynchosporium*, powdery mildew, *Fusarium* ear blight\*

### Winter and spring oilseed rape

Phoma leaf spot and Stem canker and *Sclerotinia* stem rot.

\*ERA will provide moderate control of these diseases.

(Qualified Recommendation: Note that ERA can be used on varieties of spring oilseed rape but crop safety has not been fully established.)

## Cereals

### Eyespot

Spray in the spring at the first sign of disease, from when the leaf sheaths begin to become erect until the 2nd node is detectable (GS 30-32).

### Septoria Leaf Blotch and Glume Blotch

Apply before disease is established in the crop. To protect the upper leaves and ear apply ERA at full flag leaf emergence (GS 37) up to mid-flowering (GS 65). Where disease pressure remains high, application may be repeated. Applications to upper leaves where *Septoria* symptoms are present are likely to be less effective.

ERA contains a DMI fungicide. Resistance to some DMI fungicides has been identified in *Septoria* leaf blotch (*Mycosphaerella graminicola*) which may seriously affect the performance of some products. For further advice on resistance management in DMIs contact your agronomist or specialist advisor and visit the FRAG-UK website.

### Powdery Mildew

Apply ERA at the first signs of disease. Where disease pressure remains high, application may be repeated. Repeated application of ERA alone should not be used on the same crop against a high-risk pathogen such as powdery mildew.<sup>1</sup>

### Yellow Rust

Apply ERA at the first signs of disease. ERA controls yellow rust in wheat and winter barley. A second application may be made 2-3 weeks later if re-infection occurs. Applications made to established infections are likely to be less effective.

### Brown Rust

Apply ERA at the first signs of disease. ERA controls brown rust in barley (*Puccinia hordei*) and rye (*P. recondita*) and will give moderate control of brown rust in wheat (*P. recondita*). A second application may be made 2-3 weeks later if re-infection occurs. Applications made to established infections are likely to be less effective.

### **Tan Spot**

Apply ERA at the first signs of disease in spring/early summer.

ERA will give moderate control of tan spot in winter wheat. Where disease pressure remains high, application may be repeated.

### **Ear Disease Complex**

Apply ERA soon after ear emergence until the end of flowering (GS59-69) for moderate control of *Fusarium* ear blight and reduction of sooty moulds. Control of ear diseases can result in cleaner, brighter ears. Through the reduction of ear blight, ERA effectively reduces the level of the *Fusarium* mycotoxin deoxynivalenol (DON) in wheat grain. However, where *Fusarium* levels are high, the reduction achieved may not always be sufficient to ensure that DON levels fall below the statutory limit.

### **Leaf Blotch**

ERA gives control of *Rhynchosporium*. Apply ERA in spring at the first signs of disease. For severe infections a second application may be necessary 2-3 weeks later.

### **Net Blotch**

Apply ERA at the first signs of disease in spring/early summer. For severe infections, a second application 2-3 weeks later will give most effective control when conditions remain favourable for disease development.

### **Oilseed rape**

#### **Phoma Leaf spot/Stem Canker**

Apply ERA in autumn at the first sign of disease. Repeat application if disease symptoms reoccur.

#### **Sclerotinia stem rot**

Apply ERA during flowering when 10% of flowers on main raceme are open and the main raceme is elongating until end of flowering (GS 61-69)

### **Resistance**

Repeated application of ERA alone should not be used on the same crop in one season against high risk pathogens (e.g. cereal powdery mildews, barley net blotch) in areas of high disease pressure for that particular pathogen. 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.

Strains of Light Leaf Spot resistant to azole fungicides are known to exist. Where possible when Light Leaf Spot is present use a fungicide with an alternative mode of action or mixes containing an alternative mode of action when targeting other diseases such as Sclerotinia.

The possible development of disease strains resistant to ERA cannot be excluded or predicted. Where such resistant strains occur, ERA is unlikely to give satisfactory control.

### **CROP SPECIFIC INFORMATION**

#### **Cereals**

Apply ERA at 0.65 L in 200-400 L water/ha. The maximum total dose per crop is 1.3 L/ha with a minimum interval of 21 days between the two applications.

#### **Oilseed rape**

Apply ERA at 0.6 L in 200-400 L water/ha. The maximum total dose is 1.2 L/ha with maximum 2 applications per crop. Maximum 1 application in autumn against Phoma leaf spot/stem canker with an interval of minimum 86 days between autumn and spring application. The minimum interval between two spring applications is 21 days.

#### **Mixing and spraying**

Thoroughly shake the pack before use. Add the required quantity of ERA to the half-filled spray tank with the agitation system in operation and then fill to the required level. Continue agitation at all times during spraying and stoppages until the tank is completely empty. Spray immediately after mixing. Sprayers should be THOROUGHLY CLEANED before use and filters and jets checked for damage and blockages. Thoroughly wash all spraying and measuring equipment with water and a wetting agent immediately after use. Do not clean application equipment near surface water. Avoid contamination

via drains from farmyards and roads. A pressure of 2-3 bar (30-40 psi) is recommended. Apply as a MEDIUM quality spray (as defined by BCPC). General Boom height and water volume should be adjusted to ensure good coverage of the crop, particularly at later growth stages. In dense crops at later growth stages, the higher water volumes should be used as recommended.

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

(This section does not form part of the product label under the Control of Pesticides Regulations 1986.)

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

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

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## **Safety Data Sheet v1.2**

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

#### **1.1 Product identifier**

Trade name: ERA

Design code: A23248B

Product Registration Number: MAPP 19792

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

Telephone: +44 (0) 1223 883400

Telefax: +44 (0) 1223 882195

E-mail address of person responsible for the SDS: product.technical\_enquiries@syngenta.com

#### **1.4 Emergency telephone number**

Emergency telephone number: +44 1484 538444

### **SECTION 2: Hazards identification**

#### **2.1 Classification of the substance or mixture**

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

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

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

Long-term (chronic) aquatic hazard, Category 2 - H410: Very toxic to aquatic life with long lasting effects.

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

#### **2.2 Label elements**

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

#### **Hazard pictograms:**



**Signal word:** Danger

**Hazard statements:** H302 Harmful if swallowed.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H411 Toxic to aquatic life with long lasting effects.

**Precautionary statements:**

P264 Wash hands thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
 P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.  
 P302+P352 IF ON SKIN: Wash with plenty of water.  
 P305+P351+P338+P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.  
 P330 Rinse mouth.  
 P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
 P362 Take off contaminated clothing.  
 P391 Collect spillage.  
 P501 Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

**Hazardous components which must be listed on the label:**

2-pyrrolidinone, 1-butyl-  
 N-(n-octyl)-2-pyrrolidone

**Additional Labelling**

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

**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	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	>= 25 - < 30
N-(n-octyl)-2-pyrrolidone	2687-94-7 403-700-8 613-098-00-0	Skin Corr. 1B; H314 Eye Dam. 1; H318 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.

Risks: Harmful if swallowed. Causes skin irritation. Causes serious eye damage.

## 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.

### 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 <sup>3</sup>	Supplier

## Derived No Effect Level (DNEL)

Substance name	End Use	Exposure routes	Potential health effects	Value
2-pyrrolidinone, 1-butyl-	Workers	Inhalation	Long-term systemic effects	24.1 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	10 mg/kg
	Consumers	Inhalation	Long-term systemic effects	4.29 mg/m <sup>3</sup>
	Consumers	Dermal	Long-term systemic effects	5 mg/kg
	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 <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	2.5 mg/kg
	Consumers	Inhalation	Long-term systemic effects	5.75 mg/m <sup>3</sup>
	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):

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
	Soil	1.68 mg/kg
N-(n-octyl)-2-pyrrolidone	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

Hand protection

Material : Nitrile rubber

Break through time : > 480 min

Glove thickness : 0.5 mm

Remarks : Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.



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

Impervious clothing

Respiratory protection : 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.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

### **9.1 Information on basic physical and chemical properties**

Physical state: clear, slightly viscous

Colour: yellow brown

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: n-octanol/water: No data available

Vapour pressure: No data available

Density: 1.07 g/cm<sup>3</sup>

Relative vapour density: No data available

Explosives : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

### **9.2 Other information**

Particle size: No data available

## **10. STABILITY AND REACTIVITY**

### **10.1 Reactivity:**

None reasonably foreseeable.

### **10.2 Chemical stability**

Stable under normal conditions.

### **10.3 Possibility of hazardous reactions**

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

### **10.4 Conditions to avoid**

Conditions to avoid: 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

Harmful if swallowed.

#### Product:

Acute oral toxicity: Acute toxicity estimate: 1,001 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

Causes skin 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

Causes serious eye damage.

#### 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

#### Skin sensitisation

Not classified due to lack of data.

## **Respiratory sensitisation**

Not classified due to lack of data.

### **Components:**

#### **prothioconazole (ISO):**

Test Type : mouse lymphoma cells

Species : Mouse

Result : Did not cause sensitisation on laboratory animals.

#### **Germ cell mutagenicity**

Not classified due to lack of data.

### **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**

Not classified due to lack of data.

### **Components:**

#### **prothioconazole (ISO):**

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

#### **Reproductive toxicity**

Not classified due to lack of data.

### **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**

Not classified due to lack of data.

### **Components:**

#### **prothioconazole (ISO):**

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

#### **STOT - repeated exposure**

Not classified due to lack of data.

### **Components:**

#### **prothioconazole (ISO):**

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

#### **Aspiration toxicity**

Not classified due to lack of data.

## **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

Toxicity to algae/aquatic plants:

EC50 (*Raphidocelis subcapitata* (freshwater green alga)): 2.18 mg/l  
Exposure time: 72 h  
ErC50 (*Skeletonema costatum* (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: <i>Daphnia magna</i> (Water flea)
M-Factor (Chronic aquatic toxicity):	1
<b>N-(n-octyl)-2-pyrrolidone:</b>	
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.

#### **13. DISPOSAL CONSIDERATIONS**

##### **13.1 Waste treatment methods**

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

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

#### **14. TRANSPORT INFORMATION**

##### **14.1 UN Number:**

<b>ADR</b>	<b>RID</b>	<b>IMDG</b>	<b>IATA</b>
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)**

<b>ADR</b>	<b>RID</b>	<b>IMDG</b>	<b>IATA</b>
9	9	9	9

##### **14.4 Packing group**

###### **ADR**

Packing group : III

Classification Code : M6

Hazard Identification Number : 90

Labels : 9

Tunnel restriction code : (-)

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.

###### **RID**

Packing group : III

Classification Code : M6

Hazard Identification Number : 90

Labels : 9

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.

###### **IMDG**

Packing group : III

Labels : 9

EmS Code : F-A, S-F

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.

## IATA (Cargo)

Packing instruction (cargo aircraft): 964

Packing instruction (LQ): Y964

Packing group: III

Labels: 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.

## IATA (Passenger)

Packing instruction (passenger aircraft): 964

Packing instruction (LQ): Y964

Packing group: III

Labels: 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
	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

Relevant EU provisions transposed through retained EU law

UK REACH List of restrictions (Annex 17): Conditions of restriction for the following entries should be considered:

Number on list 3

UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation: Not applicable

The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Britain): Not applicable

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

UK REACH List of substances subject to authorisation (Annex XIV): Not applicable

GB Export and import of hazardous chemicals - Prior Informed Consent (PIC) Regulation: Not applicable

Control of Major Accident Hazards Regulations 2015 (COMAH) E1 ENVIRONMENTAL HAZARDS

### 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
H318: Causes serious eye damage.	Eye Irrit.: Eye irritation
H319: Causes serious eye irritation.	Skin Corr.: Skin corrosion
H400: Very toxic to aquatic life.	Skin Irrit.: Skin irritation
H410: Very 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 (Cana-da); 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; 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:

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

##### Classification procedure:

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.