Patel 300 EC

syngenta®

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

An emulsifiable concentrate containing 300 g/L of prothioconazole.

GROUP 3 FUNGICIDE F

SHAKE WELL BEFORE USE. PROTECT FROM FROST. FOR PROFESSIONAL USE ONLY

RISK AND SAFETY INFORMATION

Danger

Harmful if swallowed

Causes skin irritation.

Causes serious eye damage.

Very toxic to aquatic life with long lasting effects.

Wash hands, forearms and face thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
Immediately call a doctor or POISON CENTER or doctor/physician.
Rinse mouth.
IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON SKIN: Wash with plenty of soap and water.
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 triple rinsed clean containers which can be disposed of as non-hazardous waste.

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

PCS No. 06495 **UFI:** W660-K07P-Y00A-F4SQ

Authorisation holder	Marketing Company
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L1093551 IREL/09A PPE 4170014

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5 litres

KEEP 50x20mm AREA CLEAR FOR BARCODE

L & PPE numbers must be kept close to this unprinted barcode area, with a white background behind them

IMPORTANT INFORMATION

FOR USE ONLY AS AN AGRICULTURAL FUNGICIDE

BRAND LOGO/NAME
LOGO/NOM DE MARQUE
LOGO/NOMBRE DEL PRODUCTO

Crop	Maximum individual dose (L/ ha)	Maximum total dose (L product/ha/crop)	Latest time of application
Barley, Wheat, Durum wheat & triticale	0.65	1.3	Before end of flowering stage (GS69)
Rye	0.65	1.3	Before beginning of flowering stage (GS61)
Oilseed rape	0.6	1.2	Before end of flowering stage (GS69)

SAFETY PRECAUTIONS

Operator protection

Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment:
WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) AND SUITABLE PROTECTIVE GLOVES AND FACE PROTECTION (FACESHIELD) when handling the concentrate.
WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) when applying the product.
WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) AND SUITABLE PROTECTIVE GLOVES when handling contaminated surfaces.
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY with plenty of water and seek medical advice.
WASH HANDS before eating and drinking/smoking/after work.
WHEN USING DO NOT EAT, DRINK OR SMOKE.
IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, seek medical advice immediately (show the label where possible).

FRONT PAGE
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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 10m to surface water bodies.

Storage and disposal

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS
KEEP OUT OF REACH OF CHILDREN
KEEP IN ORIGINAL CONTAINER, tightly closed in a safe place/under lock and key/away from damp/ sources of heat.
RINSE CONTAINER THOROUGHLY by using an integrated pressure rinsing device or manually rinsing three times. Add the washings to the sprayer at the time of filling and dispose of safely.
DO NOT RE-USE CONTAINER for any purpose.

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.

GENERAL INFORMATION

PATEL 300 EC is an emulsifiable concentrate formulation containing 300 g/L prothioconazole. It is a triazolinthione fungicide for the control of stem-base, foliar and ear disease in winter and spring wheat, durum wheat, winter and spring rye, winter and spring barley, winter and spring triticale and for disease control in winter and spring oilseed rape.

DISEASES CONTROLLED
CEREALS

	Wheat	**Barley**	**Triticale**	**Rye**
Septoria Leaf Blotch (*Mycosphaerella graminicola*)	MC	-	MC	MC
Glume Blotch (*Stagonospora nodorum*)	MC	-	-	MC
Powdery Mildew (*Blumeria graminis*)	C	C	C	C
Yellow rust	C	C	C	-
Brown rust	MC	C	C	C
Tan spot	MC	-	-	-
Fusarium ear blight	MC	MC	-	-
Rhynchosporium Leaf Blotch	-	C	C	C
Net Blotch	-	C	-	-

C = control MC = moderate control

TEXT AREA
NOT TO SCALE

Septoria Leaf Blotch (*Mycosphaerella graminicola*) and Glume Blotch (*Stagonospora nodorum*)
Apply before disease is established in the crop. To protect the upper leaves and ear apply PATEL 300 EC from BBCH 25 (5 tillers detectable) up to beginning of flowering (BBCH 61). Where disease pressure remains high application may be repeated.

Yellow rust (*Puccinia striiformis*)
Apply PATEL 300 EC at the latest at the first signs of disease (BBCH 25-61). 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 (*Puccinia recondita*) and Dwarf leaf rust (*Puccinia hordei*)
Apply PATEL 300 EC at the latest at the first signs of disease (BBCH 25-61). 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 (*Pyrenophora tritici-repentis*), Powdery mildew (*Blumeria graminis*)
Apply PATEL 300 EC at the latest at the first signs of disease in spring/early summer (BBCH 25-61). Where disease pressure remains high application may be repeated.

Fusarium sp.
Apply PATEL 300 EC soon after ear emergence until the end of flowering (BBCH61-69) for moderate control of Fusarium sp. without exceeding the maximum total dose per crop. Control of ear diseases can result in cleaner, brighter ears. Through the reduction of ear blight, PATEL 300 EC 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.

Net Blotch (*Pyrenophora teres*)
Apply PATEL 300 EC at the latest at the first signs of disease in spring/early summer (BBCH 25-61). For severe infections, a second application 2-3 weeks later will give most effective control when conditions remain favourable for disease development.

Leaf Blotch (*Rhynchosporium secalis*)
Apply PATEL 300 EC in spring at the latest at the first signs of disease (BBCH 25-61). For severe infections a second application may be necessary 2-3 weeks later.

OILSEED RAPE (WINTER and SPRING)

	Oilseed rape
Black spot (*Alternaria sp.*)	MC
Sclerotinia stem rot	MC
Phoma Leaf spot/Stem Canker	C

C = control MC = moderate control

Winter oilseed rape:
Phoma Leaf spot/Stem Canker (*Plenodomus lingam*)
Apply PATEL 300 EC in autumn or spring at the latest at the first sign of disease (BBCH 16-59). Repeat application in spring if disease symptoms reoccur after first application in autumn.
Maximum 1 application in autumn (BBCH 16-19).
Minimum interval between one autumn and one spring application : 86 days.
Minimum interval between 2 spring applications : 21 days.

Stem rot (*Sclerotinia sp.*), Black spot (*Alternaria sp.*)
Apply PATEL 300 EC at early to full flowering (BBCH 61-69) without exceeding the maximum total dose per crop.

NEW AREA
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Spring oilseed rape:
Phoma Leaf spot/Stem Canker (*Plenodomus lingam*)
Apply PATEL 300 EC in spring at the latest at the first sign of disease (BBCH 16-59).
Minimum interval between 2 spring applications : 21 days.

Stem rot (*Sclerotinia sp.*), Black spot (*Alternaria sp.*)
Apply PATEL 300 EC at early to full flowering (BBCH 61-69) without exceeding the maximum total dose per crop.

CROP SPECIFIC INFORMATION
PATEL 300 EC may be used on all commercial varieties of winter and spring wheat, durum wheat, winter and spring rye, winter and spring barley, winter and spring triticale and for disease control in winter and spring oilseed rape.

Cereals
Method of application: Tractor mounted/trailed sprayer.
Apply PATEL 300 EC at 0.65 L product/ha in 200-400 L water/ha. Maximum total dose per crop is 1.3 L/ha.
A minimum interval of 14 days must be observed between applications.
Apply as a MEDIUM spray quality.

Oilseed rape (Winter and Spring):
Method of application: Tractor mounted/trailed sprayer.
Apply PATEL 300 EC at 0.6 L product/ha in 200-400 L water/ha. Maximum total dose per crop is 1.2 L/ha.
A minimum interval of 21 days must be observed between applications.

The minimum interval between one autumn and one spring application is 86 days.
Apply as a MEDIUM spray quality.

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.

MIXING AND SPRAYING
Thoroughly shake the pack before use. Add the required quantity of PATEL 300 EC 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. A spray pressure of 2-3 bar is recommended. Sprayers should be thoroughly cleaned before use, and filters and jets checked for damage and blockages. Boom height should be adjusted to ensure even coverage of the crop, particularly at later growth stages. The correct height is one at which the spray from alternate nozzles meets just above the crop. In dense crops, at later growth stages, higher water volumes should be used. Thoroughly wash all spray and measuring equipment with water immediately after use.

RESISTANCE
Repeated application of PATEL 300 EC alone should not be used on the same crop against a high risk 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. The possible development of disease strains resistant to PATEL 300 EC cannot be excluded or predicted. Where such resistant strains occur, PATEL 300 EC is unlikely to give satisfactory control. To avoid development of resistance apply product protectively in response to disease forecasts.

CONDITIONS OF SUPPLY
All goods supplied by us are of 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.

TEXT AREA

Saftey Data Sheet v2.2
SECTION 1: Identification of the substance/mixture and of the company/undertaking
1.1 Product identifier
Trade name : PATEL 300 EC
Design code : A23248A
Product Registration Number : PCS 06495
Unique Formula Identifier (UFI): W660-K07P-Y00A-F4SQ
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)

SECTION 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	Harmful if swallowed.
	H315	Causes skin irritation.
	H318	Causes serious eye damage.
	H410	Very toxic to aquatic life with long lasting effects.
Precautionary statements:	P264	Wash hands, forearms and face thoroughly after handling.
	P270	Do not eat, drink or smoke when using this product.
	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.
	P310	Immediately call a POISON CENTER or doctor/ physician.
	P330	Rinse mouth.
	P305+P351 +P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P302+P352	IF ON SKIN: Wash with plenty of soap and water.
	P332+P313	If skin irritation occurs: Get medical advice/ attention.
	P362+P364	Take off contaminated clothing and wash it before reuse.
	P391	Collect spillage.
	P501	Dispose of contents/container to a licensed hazardouswaste disposal contractor or collection site except for empty triple rinsed clean containers which can be disposed of as non-hazardous waste.

Min. height 9,0 mm

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.

SECTION 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	25 - 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 01-0000015335-74-xxxx	Skin Corr. 1B; H314 Aquatic Chronic 2; H411	5 - 10

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

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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.

SECTION 5: Firefighting 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 firefighters

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.

SECTION 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 material 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.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

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

7.2 Conditions for safe storage, including any incompatibilities

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

7.3 Specific end use(s)

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

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SECTION 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
	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	30.62 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.

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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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : viscous liquid
Colour : dark brown
Odour : sweetish, weak
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 : does not flash
Auto-ignition temperature : 232 °C
Decomposition temperature : No data available
pH : 5.1. Concentration: 1 % w/v
Viscosity, dynamic : 158 mPa.s (20 °C)
Viscosity, kinematic : 148 mm^2/s (20 °C)
Water solubility : emulsifiable
Solubility in other solvents : No data available
Partition coefficient: noctanol/water: No data available
Vapour pressure : No data available
Density : 1.07 g/cm^3
Relative vapour density : No data available
Particle characteristics
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

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SECTION 10: Stability and reactivity

10.1 Reactivity

None reasonably foreseeable.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

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

10.4 Conditions to avoid

Conditions to avoid : Extremes of temperature and direct sunlight.

10.5 Incompatible materials

Materials to avoid : None known.

10.6 Hazardous decomposition products

Hazardous decomposition products: No hazardous decomposition products are known.

SECTION 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

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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.

SECTION 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 (Skeletonema costatum (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: Oncorhynchus mykiss (rainbow trout)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	EC10: 0.61 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)
M-Factor (Chronic aquatic toxicity):	1

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

Toxicity to fish :	LC50 (Danio rerio (zebra fish)): > 12.8 - < 44.8 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates:	EC50 (Daphnia magna (Water flea)): 12.2 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants:	ErC50 (Desmodesmus subspicatus (green algae)): 19 mg/l Exposure time: 72 h
Toxicity to microorganisms :	EC50 (Pseudomonas putida): 460 mg/l Exposure time: 0.5 h
Toxicity to fish (Chronic toxicity):	NOEC: 0.91 mg/l

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	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: Daphnia magna (Water flea)

12.2 Persistence and degradability

Components:

prothioconazole (ISO):

Biodegradability : Result: Not rapidly 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.

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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

SECTION 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. 15 01 10, packaging containing residues of or contaminated by hazardous substances

SECTION 14: Transport information

14.1 UN number or ID 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)
Class Subsidiary risks

ADR	RID	IMDG	IATA
9	9	9	9

14.4 Packing group

ADR	RID	IMDG
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 : Miscellaneous	Packing instruction (passenger aircraft): 964 Packing instruction (LQ) : Y964 Packing group : III Labels : Miscellaneous	

14.5 Environmental hazards

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

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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 Maritime transport in bulk according to IMO instruments
Not applicable for product as supplied.

SECTION 15: Regulatory information
15.1 Safety, health and environmental regulations/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 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.
15.2 Chemical safety assessment
A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

SECTION 16: Other information

Full text of H-statements:

H302: Harmful if swallowed.
H314: Causes severe skin burns and eye damage.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.
H411: Toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.: Acute toxicity
Aquatic Acute: Short-term (acute) aquatic hazard
Aquatic Chronic: Long-term (chronic) aquatic hazard
Eye Irrit.: Eye irritation
Skin Corr.: Skin corrosion
Skin Irrit.: Skin irritation

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; 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; TECI - Thailand Existing Chemicals 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:		**Classification procedure:**
Acute Tox. 4	H302	Calculation method
Skin Irrit. 2	H315	Based on product data or assessment
Eye Dam. 1	H318	Based on product data or assessment
Aquatic Acute 1	H400	Calculation method
Aquatic Chronic 1	H410	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.

Not for sale

IMPORTANT INFORMATION

FOR USE ONLY AS AN AGRICULTURAL FUNGICIDE

Crop	Maximum individual dose (L/ ha)	Maximum total dose (L product/ha/crop)	Latest time of application
Barley, Wheat, Durum wheat & triticale	0.65	1.3	Before end of flowering stage (GS69)
Rye	0.65	1.3	Before beginning of flowering stage (GS61)
Oilseed rape	0.6	1.2	Before end of flowering stage (GS69)

SAFETY PRECAUTIONS

Operator protection

Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment:
WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) AND SUITABLE PROTECTIVE GLOVES AND FACE PROTECTION (FACESHIELD) when handling the concentrate.
WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) when applying the product.
WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) AND SUITABLE PROTECTIVE GLOVES when handling contaminated surfaces.
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY with plenty of water and seek medical advice.
WASH HANDS before eating and drinking/smoking/after work.
WHEN USING DO NOT EAT, DRINK OR SMOKE.
IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, seek medical advice immediately (show the label where possible).

LEAF AREA
INDEX METHOD

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 10m to surface water bodies.

Storage and disposal

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS
KEEP OUT OF REACH OF CHILDREN
KEEP IN ORIGINAL CONTAINER, tightly closed in a safe place/under lock and key/away from damp/ sources of heat.
RINSE CONTAINER THOROUGHLY by using an integrated pressure rinsing device or manually rinsing three times. Add the washings to the sprayer at the time of filling and dispose of safely.
DO NOT RE-USE CONTAINER for any purpose.

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