

# Amistar Top<sup>®</sup>

**syngenta**<sup>®</sup>

Product registration number: MAPP 18050; PCS no. 04582

A suspension concentrate containing 200 g/l azoxystrobin and 125 g/l difenoconazole and 1,2-benzisothiazol-3(2H)-one.

A broad-spectrum fungicide for use in outdoor crops of carrots, leeks, Brussels sprouts, cabbage, cauliflower, broccoli/calabrese, kale (winter greens), collards (spring greens), rocket (outdoor) and strawberry (outdoor and protected).

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

**In case of toxic or transport emergency ring +44 (0) 1484 538444 any time.**

Syngenta UK Limited  
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The product label is compliant with the CPA  
Voluntary Initiative (VI) guidance (UK only).



The  
Voluntary  
Initiative

### FOR PROFESSIONAL USE ONLY

#### **AMISTAR Top<sup>®</sup>**

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

A suspension concentrate containing 200 g/l azoxystrobin and 125 g/l difenoconazole and 1,2-benzisothiazol-3(2H)-one.

#### **Warning**

**Harmful if swallowed or inhaled.**

**May cause an allergic skin reaction.**

**Very toxic to aquatic life with long lasting effects.**

Keep out of reach of children.

Wear protective gloves/protective clothing.

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

**IF ON SKIN:** Wash with plenty of soap and water.

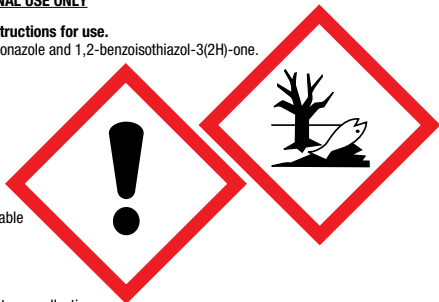
**IF INHALED:** Remove person to fresh air and keep at rest in a position comfortable for breathing.

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

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

Collect spillage.

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.



**MAPP 18050; PCS No. 04582**

# 5 litres

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

*PROTECT FROM FROST  
SHAKE WELL BEFORE USE*

**IMPORTANT INFORMATION - FOR USE ONLY AS A FUNGICIDE**

Crop	Maximum individual dose (litres product/hectare)	Maximum number of applications (per crop)	Latest time of application (days before harvest)
Carrot (outdoor)	1.0	2	14
Leek (outdoor)	1.0	1	21
Cabbage (outdoor), Brussels sprouts (outdoor)	1.0	2	21
Outdoor crops of Cauliflower, broccoli/calabrese, kale (winter greens) and collards (spring greens)	1.0	2	14
Rocket (outdoor).	1.0	2	14
Outdoor and Protected strawberry	1.0	2	3

Crops/situations:	Aquatic buffer zone distance (metres):	Comment:
Broccoli/calabrese, Brussels sprout, cabbage, carrot, cauliflower, collard, kale, leek, rocket (outdoor), strawberry (outdoor), strawberry (protected)	5	See Environmental protection (Safety precautions section)

**Other specific restrictions:**

- For use on broccoli/calabrese, Brussels sprout, cabbage, cauliflower, collards, kale and outdoor rocket, the maximum total dose of difenoconazole must not exceed 250 g per hectare per year.
- For the use on carrots the maximum total dose of difenoconazole must not exceed 375 g per hectare.
- When using in sequence with other azoxystrobin containing products, or on multiple short season crops of broccoli, calabrese, Brussels sprouts, cabbage, cauliflower, collards and kale, the maximum total dose of azoxystrobin must not exceed 500 g azoxystrobin per hectare per year.

**READ THE 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.**

**SAFETY PRECAUTIONS****(a) 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 when handling the concentrate or applying by hand-held equipment.

WEAR SUITABLE PROTECTIVE GLOVES when handling contaminated surfaces.

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.

WASH SPLASHES from skin or eyes immediately.

WASH HANDS AND EXPOSED SKIN before meals and after work.

IF YOU FEEL UNWELL, seek medical advice immediately (show the label where possible).

**(b) 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.

For use in the UK

To protect aquatic organisms respect an unsprayed buffer zone to surface water bodies in line with LERAP requirements.



DO NOT ALLOW DIRECT SPRAY from ground crop sprayers to fall within 5 m of the top of the bank of a static or flowing waterbody unless a Local Environmental Risk Assessment for Pesticides (LERAP) permits a narrower buffer zone, or within 1 m of the top of a ditch which is dry at the time of application. DO NOT ALLOW DIRECT SPRAY from hand-held sprayers to fall within 1 m of the top of the bank of a static or flowing water body. Aim spray away from water. This product qualifies for inclusion within the Local Environmental Risk Assessment for Pesticides (LERAP) scheme. A LERAP must be carried out in accordance with CRD published guidance before each spraying operation from a ground crop sprayer. The results of the LERAP must be recorded and the records kept available for inspection for three years.

**For use in Ireland**

To protect aquatic organisms respect an unsprayed buffer zone of 5m to surface water bodies.

**(c) 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.

RINSE CONTAINER THOROUGHLY by using an integrated pressure rinsing device or manually rinsing three times. Add washings to sprayer at time of filling and dispose of safely.

DO NOT RE-USE CONTAINER for any other purpose.

## DIRECTIONS FOR USE

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

A suspension concentrate containing 200 g/l azoxystrobin and 125 g/l difenoconazole. AMISTAR TOP is a broad-spectrum fungicide for use on outdoor crops of carrots, leeks, Brussels sprouts, cabbage, cauliflower, broccoli/calabrese, kale (winter greens), collards (spring greens), rocket, outdoor and protected strawberry.

## RESTRICTIONS

As a precaution AMISTAR TOP should not be applied where there is a risk of spray drift onto neighbouring apple crops.

## DISEASES CONTROLLED

### Carrots

Alternaria leaf blight (*Alternaria dauci*)

Powdery mildew (*Erysiphe polygoni*)

### Leeks

Leaf rust (*Puccinia porri*)

Purple blotch (*Alternaria porri*) – moderate control

Qualified recommendation: May give some control of White tip (*Phytophthora porri*)

### Brassicacae and rocket (outdoor)

White blister (*Albugo candida*)

Powdery mildew (*Erysiphe cruciferarum*)

When used for control of other diseases AMISTAR TOP applied as a protectant treatment will also control Alternaria (*Alternaria brassicae* and *Alternaria brassicicola*) and Ring spot (*Mycosphaerella brassicicola*)

### Strawberry (protected and outdoor)

Powdery mildew (*Podosphaera aphanis*)

Black spot (*Colletotrichum acutatum*)

Leaf blotch (*Gnomonia comari*)

## CROP SPECIFIC INFORMATION

### CARROT, LEEK AND BRASSICACAE

#### Timing

Before applying AMISTAR TOP, ensure the crop is free from any stress caused by environmental or agronomic effects. Always inspect crops to assess disease development immediately before spraying. Best results will be achieved from applications made in the earliest stage of disease development or as a protectant treatment following a disease risk assessment or the use of appropriate decision support systems.

Applications must only be made to developed canopy and not before growth stage BBCH 41 as described below:

- Carrot: roots beginning to expand (diameter >0.5cm)
- Leek: leaf bases begin to thicken or extend
- Cabbage: heads begin to form, the 2 youngest leaves do not unfold
- Kale, collard: 10% of the leaf mass typical for the variety reached
- Brussels sprouts: lateral buds begin to develop
- Cauliflower, broccoli, calabrese: heads begin to form, width of growing tip >1cm

A further application can be made if disease pressure remains high. A minimum interval of 14 days must be observed between applications to all brassicae and carrots.

On leeks, only a single application of AMISTAR TOP is permitted. If disease pressure persists a further application of different product may be necessary.

#### **Rate Of Use**

1.0 litre per hectare.

#### **Processing**

Where a crop is destined for processing, consult your processor before treating with AMISTAR TOP.

### **ROCKET (OUTDOOR)**

#### **Timing**

Before applying AMISTAR TOP, ensure the crop is free from any stress caused by environmental or agronomic effects. Always inspect crops to assess disease development immediately before spraying. Best results will be achieved from applications made in the earliest stage of disease development or as a protectant treatment following a disease risk assessment or the use of appropriate decision support systems.

Applications must only be made to developed canopy. Do not apply to these crops until at least 70% crop interception occurs.

A minimum interval of 7 days must be observed between applications.

#### **Rate Of Use**

1.0 litre per hectare.

### **OUTDOOR AND PROTECTED STRAWBERRY**

The safety to strawberry crops used for propagation has not been established.

#### **Timing**

For optimum results apply AMISTAR TOP as a protectant spray at the beginning of flowering. A further application can be made if disease pressure remains high. Application should be made in sequence with other products as part of a fungicide programme during flowering.

Applications must only be made to developed canopy and not before growth stage BBCH 41: beginning of stolon (runner) formation, stolons visible (about 2cm long)

A minimum interval of 7 days must be observed between applications.

## Rate Of Use

1.0 litre per hectare.

## Processing

Where a crop is destined for processing, consult your processor before treating with AMISTAR TOP.

## RESISTANCE MANAGEMENT

Use AMISTAR TOP as part of an Integrated Crop Management (ICM) strategy incorporating other methods of control, including where appropriate other fungicides with a different mode of action.

To avoid the likelihood of resistance developing, application of AMISTAR TOP should be made with due regard to current FRAG-UK guidelines for QoI compounds. Do not apply more than a total of two applications, when used as part of a programme.

## MIXING AND SPRAYING

### Mixing

Make sure the sprayer is set to give an even application at the correct volume. Fill the spray tank with half the required volume of clean water and start agitation. Add the required amount of AMISTAR TOP to the spray tank. Agitate the mixture thoroughly before use and continue agitation during spraying. Thoroughly wash all spray equipment with water immediately after use.

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

### Spray Volume

Brassicas and Carrots: Apply in a recommended 200-600 litres of water per hectare.

Leeks: Apply in a recommended 300-1000 litres of water per hectare.

Rocket (outdoor) and strawberries (outdoor and protected): Apply in a recommended 300-1200 litres of water per hectare.

### Spraying

For outdoor use apply through conventional crop spraying equipment. Apply using a medium quality spray as defined by BCPC. A spray pressure of at least 2 bar is preferred.

Applications for the protected uses should be made via hydraulic nozzle applicator e.g. motorised sprayer with hand lance or boom lance or knapsack applications.

Thoroughly wash all spray equipment with water immediately after use. Do not leave the spray liquid in the sprayer for long periods (such as during meal breaks or overnight).

**This product is to be used only in accordance with the recommendations and instructions given on the labels provided with this pack.**

**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 Plant Protection Products Regulations 1995.)

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 - V9**

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

**1.1 Product Identifier**

Product Name: AMISTAR TOP  
Design Code: A13703G  
Product Registration number: MAPP 18050; PCS 04582

**1.2 Relevant Identified Uses of the substance or mixture and uses advised against**

Use of the Substance/Mixture: Fungicide

**1.3 Details of the supplier of the safety data sheet**

Authorisation Holder: 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: customer.services@syngenta.com  
Marketing 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 phone No.: +44 (0) 1484 538444

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**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.
Acute toxicity, Category 4	H332: Harmful if inhaled.
Skin sensitisation, Sub-category 1B	H317: May cause an allergic skin reaction.

Acute aquatic toxicity, Category 1  
Chronic aquatic toxicity, Category 1

H400: Very toxic to aquatic life.  
H410: Very toxic to aquatic life with long lasting effects.

## 2.2 Label elements

### Labelling (REGULATION (EC) No 1272/2008)

<b>Hazard pictograms</b>		
<b>Signal Word</b>	Warning	
<b>Hazard Statements</b>	H302 + H332 H317 H410	Harmful if swallowed or if inhaled May cause an allergic skin reaction. Very toxic to aquatic life with long lasting effects.
<b>Supplemental Hazard Statements</b>	EUH208 EUH401	Contains 1,2-benzisothiazol-3-one. May produce an allergic reaction. To avoid risks to human health and the environment comply with the instructions for use.
<b>Precautionary Statements</b>	P102 P261 P280 P302+P352 P304 +P340+ P312 P332 + P313 P391 <b>Disposal:</b> P501	Keep out of reach of children Avoid breathing dust/fume/gas/mist/vapours/spray. Wear protective gloves/protective clothing. IF ON SKIN: Wash with plenty of soap and water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. If skin irritation occurs: Get medical advice/attention. 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.

## 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.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

#### 3.2 Mixtures

##### Hazardous Components

Chemical Name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
C16-18 alcohols, ethoxylated	68439-49-6 500-212-8	Acute Tox.4; H302 Eye Dam.1; H318	>= 20 - < 30
Azoxystrobin (ISO)	131860-33-8 607-256-00-8	Acute Tox. 3; H331 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 10 - < 20
Difenoconazole	119446-68-3	Acute Tox. 4; H302 Eye Irrit. 2; H319 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 10 - < 20
naphthalenesulfonic acid, dimethyl-, polymer with formaldehyde and methyl-naphthalenesulfonic acid, sodium salt	9084-06-4	Skin Irrit. 2; H315 Eye Irrit. 2; H319	>= 1 - < 3
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-088-00-6	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400	< 0.05

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 fire-fighting:** 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.

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## **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.

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## **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.

Further information on storage stability: Physically and chemically stable for at least 2 years when stored in the original unopened sales container at ambient temperatures.

### 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.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
azoxystrobin (ISO)	131860-33-8	TWA	4 mg/m <sup>3</sup>	SYNGENTA
difenoconazole	119446-68-3	TWA	5 mg/m <sup>3</sup>	SYNGENTA

### 8.2 Exposure controls

#### Engineering Measures:

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.

The extent of these protection measures depends on the actual risks in use.

Maintain air concentrations below occupational exposure standards.

Where necessary, seek additional occupational hygiene advice.

#### Personal protective equipment

Eye protection: No special protective equipment required.

Hand protection

Material: Nitrile rubber

Break through time: > 480 min

Glove thickness: 0.5 mm

Remarks:

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 EU Directive 89/686/EEC and the standard EN 374 derived from it.

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

Wear as appropriate: Impervious clothing

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

Suitable respiratory equipment: Respirator with combination filter for vapour/particulate (EN 141)

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Filter type: Organic vapour type (A)

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.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Appearance:	Liquid
Colour:	Light yellow to yellow
Odour:	Weak
Odour Threshold:	No data available.
pH:	5 - 9
	Concentration: 1 % w/v
	7.5 - 8.5 (20 °C)
	Concentration: 100 % w/v
Melting point/range:	No data available
Boiling point/boiling range:	No data available
Flash point:	>100 °C (1007 hPa)
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Lower explosion limit:	No data available
Upper explosion limit:	No data available
Relative vapour density:	No data available
Density:	1.11 g/cm <sup>3</sup> (20 °C)
Solubility(ies)	
Solubility in other solvents:	No data available
Partition Coefficient n-octanol/water:	No data available
Autoignition temperature:	505 °C
Decomposition temperature:	No data available
Viscosity, dynamic:	169 - 646 mPa.s (20 °C)
	98.0 - 472 mPa.s (40 °C)
Explosive properties:	Not explosive
Oxidizing properties:	The substance or mixture is not classified as oxidizing.

### 9.2 Other Information

Surface tension: 27.9 mN/m, 20 °C

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## 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.

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

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

#### Acute toxicity

##### Product:

Acute oral toxicity: LD50 (Mouse, male and female): 1,424 mg/kg

Acute inhalation toxicity: LC50 (Rat, male and female): 2.06 - < 5.17 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Assessment: The substance/mixture is not toxic on inhalation as defined by dangerous goods regulations.

Acute dermal toxicity: LD50 (Rat, male and female): > 2,000 mg/kg

Assessment: The substance or mixture has no acute dermal toxicity.

##### Components:

#### **C16-18 alcohols, ethoxylated:**

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

#### **azoxystrobin (ISO):**

Acute oral toxicity: LD50 (Rat, male and female): > 5,000 mg/kg

Acute inhalation toxicity: LC50 (Rat, female): 0.7 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

LC50 (Rat, male): 0.9 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Acute dermal toxicity: LD50 (Rat, male and female): > 2,000 mg/kg

Assessment: The substance or mixture has no acute dermal toxicity

#### **difenoconazole:**

Acute oral toxicity: LD50 (Rat, male and female): 1,453 mg/kg

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

Acute inhalation toxicity: LC50 (Rat, male and female): > 3,300 mg/m<sup>3</sup>

Exposure time: 4 h

Test atmosphere: dust/mist

Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity: LD50 (Rabbit, male and female): > 2,010 mg/kg

Assessment: The substance or mixture has no acute dermal toxicity

#### **1,2-benzisothiazol-3(2H)-one:**

Acute oral toxicity: LD50 (Rat): 1,020 mg/kg

#### **Skin corrosion/irritation**

##### Product:

Species: Rabbit

Result: No skin irritation

##### Components:

#### **azoxystrobin (ISO):**

Species: Rabbit

Result: No skin irritation

#### **difenoconazole:**

Species: Rabbit

Result: No skin irritation

**naphthalenesulfonic acid, dimethyl-, polymer with formaldehyde and methylnaphtha-lenesulfonic acid, sodium salt:**

Species: Rabbit

Result: Irritating to skin.

**1,2-benzisothiazol-3(2H)-one:**

Result: Irritating to skin.

**Serious eye damage/eye irritation**

**Product:**

Species: Rabbit

Result: No eye irritation

**Components:**

**C16-18 alcohols, ethoxylated:**

Result: Irreversible effects on the eye

**azoxystrobin (ISO):**

Species: Rabbit

Result: No eye irritation

**difenoconazole:**

Species: Rabbit

Result: Irritation to eyes, reversing within 7 days

**naphthalenesulfonic acid, dimethyl-, polymer with formaldehyde and methylnaphtha-lenesulfonic acid, sodium salt:**

Species: Rabbit

Result: Irritation to eyes, reversing within 21 days

**1,2-benzisothiazol-3(2H)-one:**

Result: Risk of serious damage to eyes.

**Respiratory or skin sensitisation**

**Product:**

Test Type: Buehler Test

Species: Guinea pig

Result: The product is a skin sensitiser, sub-category 1B.

**Components:**

**azoxystrobin (ISO):**

Species: Guinea pig

Result: Did not cause sensitisation on laboratory animals.

**difenoconazole:**

Species: Guinea pig

Result: Did not cause sensitisation on laboratory animals.

**1,2-benzisothiazol-3(2H)-one:**

Result: Probability or evidence of skin sensitisation in humans

**Germ cell mutagenicity**

**Components:**

**azoxystrobin (ISO):**

Germ cell mutagenicity- Assessment: Animal testing did not show any mutagenic effects.

**difenoconazole:**

Germ cell mutagenicity- Assessment: Animal testing did not show any mutagenic effects.

## **Carcinogenicity**

### **Components:**

#### **azoxystrobin (ISO):**

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

#### **difenoconazole:**

Carcinogenicity - Assessment: Weight of evidence does not support classification as a carcinogen, In a two-year feeding study of mice, an oncogenic effect was seen in the livers of males and females., The observed tumors do not appear to be relevant for men.

## **Reproductive toxicity**

### **Components:**

#### **azoxystrobin (ISO):**

Reproductive toxicity - Assessment: No toxicity to reproduction

#### **difenoconazole:**

Reproductive toxicity - Assessment: No toxicity to reproduction

## **Repeated dose toxicity**

### **Components:**

#### **azoxystrobin (ISO):**

Remarks: No adverse effect has been observed in chronic toxicity tests.

#### **difenoconazole:**

Remarks: No adverse effect has been observed in chronic toxicity tests.

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## **12. ECOLOGICAL INFORMATION**

### **12.1 Toxicity**

#### **Product:**

Toxicity to fish:	LC50 ( <i>Oncorhynchus mykiss</i> (rainbow trout)): 1.7 mg/l Exposure time: 96 h LC50 ( <i>Cyprinus carpio</i> (Carp)): 4.2 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates:	EC50 ( <i>Daphnia magna</i> (Water flea)): 1.1 mg/l Exposure time: 48 h
Toxicity to algae:	ErC50 ( <i>Pseudokirchneriella subcapitata</i> (green algae)): 3.9 mg/l Exposure time: 96 h NOEC ( <i>Pseudokirchneriella subcapitata</i> (green algae)): 0.23 mg/l End point: Growth rate Exposure time: 96 h

#### **Ecotoxicology Assessment**

Acute aquatic toxicity:	Very toxic to aquatic life. Classification of the product is based on the summation of the concentrations of classified components.
Chronic aquatic toxicity:	Very toxic to aquatic life with long lasting effects. Classification of the product is based on the summation of the concentrations of classified components.

### **Components:**

#### **azoxystrobin:**

Toxicity to fish:	LC50 ( <i>Oncorhynchus mykiss</i> (rainbow trout)): 0.47 mg/l Exposure time: 96 h
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Toxicity to daphnia and other aquatic invertebrates:	EC50 ( <i>Daphnia magna</i> (Water flea)): 0.28 mg/l Exposure time: 48 h EC50 ( <i>Americamysis bahia</i> (Mysid shrimp)): 0.055 mg/l Exposure time: 96 h
Toxicity to algae:	ErC50 ( <i>Pseudokirchneriella subcapitata</i> (green algae)): 2 mg/l Exposure time: 96 h NOEC ( <i>Pseudokirchneriella subcapitata</i> (green algae)): 0.038 mg/l End point: Growth rate Exposure time: 96 h ErC50 ( <i>Navicula pelliculosa</i> (Freshwater diatom)): 0.301 mg/l Exposure time: 96 h
M-Factor (Acute aquatic toxicity):	10
Toxicity to microorganisms:	IC50 ( <i>Pseudomonas putida</i> ): > 3.2 mg/l Exposure time: 6 h
Toxicity to fish (Chronic toxicity):	NOEC: 0.16 mg/l Exposure time: 28 d Species: <i>Oncorhynchus mykiss</i> (rainbow trout) NOEC: 0.147 mg/l Exposure time: 33 d Species: <i>Pimephales promelas</i> (fathead minnow)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 0.044 mg/l Exposure time: 21 d Species: <i>Daphnia magna</i> (Water flea) NOEC: 0.0095 mg/l Exposure time: 28 d Species: <i>Americamysis bahia</i> (Mysid shrimp)
M-Factor (Chronic aquatic toxicity):	10
<b>difenoconazole:</b>	
Toxicity to fish:	LC50 ( <i>Oncorhynchus mykiss</i> (rainbow trout)): 1.1 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates:	EC50 ( <i>Daphnia magna</i> (Water flea)): 0.77 mg/l Exposure time: 48 h EC50 ( <i>Americamysis bahia</i> (Mysid shrimp)): 0.15 mg/l Exposure time: 96 h
Toxicity to algae:	EC50 ( <i>Navicula pelliculosa</i> (Freshwater diatom)): 0.091 mg/l Exposure time: 72 h NOEC ( <i>Navicula pelliculosa</i> (Freshwater diatom)): 0.053 mg/l Exposure time: 72 h NOEC ( <i>Desmodesmus subspicatus</i> (green algae)): 0.0086 mg/l Exposure time: 72 h
M-Factor (Acute aquatic toxicity):	10
Toxicity to microorganisms:	EC50 (activated sludge): > 100 mg/l Exposure time: 3 h
Toxicity to fish (Chronic toxicity):	NOEC: 0.0076 mg/l Exposure time: 34 d Species: <i>Pimephales promelas</i> (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC: 0.0056 mg/l  
Exposure time: 21 d  
Species: *Daphnia magna* (Water flea)  
NOEC: 0.0046 mg/l  
Exposure time: 28 d  
Species: *Americamysis*  
10

M-Factor (Chronic aquatic toxicity):

### **1,2-benzisothiazol-3(2H)-one:**

#### **Ecotoxicology Assessment**

Acute aquatic toxicity: Very toxic to aquatic life.

## **12.2 Persistence and degradability**

### **Components:**

#### **azoxystrobin (ISO):**

Biodegradability: Result: Not readily biodegradable.

Stability in water: Degradation half life: 214 d

Remarks: The substance is stable in water.

#### **difenoconazole:**

Biodegradability: Result: Not readily biodegradable.

Stability in water: Degradation half life: 1 d

Remarks: Product is not persistent.

## **12.3 Bioaccumulative potential**

### **Components:**

#### **azoxystrobin (ISO):**

Bioaccumulation: Remarks: Does not bioaccumulate.

#### **difenoconazole:**

Bioaccumulation: Remarks: High bioaccumulation potential.

Partition coefficient: n-octanol/water: log Pow: 4.4 (25 °C)

## **12.4 Mobility in soil**

### **Components:**

#### **azoxystrobin (ISO):**

Distribution among environmental compartments: Remarks: Azoxystrobin has low to very high mobility in soil.

Stability in soil: Dissipation time: 80 d

Percentage dissipation: 50 % (DT50)

Remarks: Product is not persistent.

#### **difenoconazole:**

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

Stability in soil: Dissipation time: 149 - 187 d

Percentage dissipation: 50 % (DT50)

Remarks: Product is not persistent.

## **12.5 Results of PBT and vPvB assessment**

### **Product:**

Assessment:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.



**Components:****azoxystrobin (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).

**difenoconazole:****Assessment:**

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

**12.6 Other adverse effects**

No data available.

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**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.

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

**ADN:** UN 3082

**ADR:** UN 3082

**RID:** UN 3082

**IMDG:** UN 3082

**IATA:** UN 3082

**14.2 UN proper shipping name**

**ADN:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(AZOXYSTROBIN AND DIFENOCONAZOLE)

**ADR:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(AZOXYSTROBIN AND DIFENOCONAZOLE)

**RID:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(AZOXYSTROBIN AND DIFENOCONAZOLE)

**IMDG:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(AZOXYSTROBIN AND DIFENOCONAZOLE)

**IATA:** Environmentally hazardous substance, liquid, n.o.s.  
(AZOXYSTROBIN AND DIFENOCONAZOLE)

### 14.3 Transport hazard class(es)

**ADN:** 9

**ADR:** 9

**RID:** 9

**IMDG:** 9

**IATA:** 9

### 14.4 Packing group

#### **ADN**

Packing group: III

Classification Code: M6

Hazard Identification Number: 90

Labels: 9

#### **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

#### **ADN**

Environmentally hazardous: no

#### **ADR**

Environmentally hazardous: yes

#### **RID**

Environmentally hazardous: yes

#### **IMDG**

Marine pollutant: yes

#### **IATA (Passenger)**

Marine pollutant: yes

#### **IATA (Cargo)**

Marine pollutant: yes

#### 14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

#### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

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### SECTION 15: Regulatory information

#### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals: Not applicable

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 (EC) No 850/2004 on persistent organic pollutants: 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.

		Quantity 1	Quantity 2
E1	ENVIRONMENTAL HAZARDS	100 t	200 t

Other regulations:

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

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

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

#### 15.2 Chemical Safety Assessment

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

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### 16. OTHER INFORMATION

#### Full text of H-Statements

H302: Harmful if swallowed.

H315: Causes skin irritation.

H317: May cause an allergic skin reaction.

H318: Causes serious eye damage.

H319: Causes serious eye irritation.

H331: Toxic if inhaled.

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects.

#### Full text of other abbreviations

Acute Tox.: Acute toxicity

Aquatic Acute: Acute aquatic toxicity

Aquatic Chronic: Chronic aquatic toxicity

Eye Dam.:	Serious eye damage
Eye Irrit.:	Eye irritation
Skin Irrit.:	Skin irritation
Skin Sens.:	Skin sensitisation

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

## Further information

### Classification of the mixture:

Acute Tox. 4	H302
Acute Tox. 4	H332
Skin Sens. 1B	H317
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

### Classification procedure:

Based on product data or assessment
Based on product data or assessment
Based on product data or assessment
Based on product data or assessment
Based on product data or assessment

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.







**IMPORTANT INFORMATION - FOR USE ONLY AS A FUNGICIDE**

Crop	Maximum individual dose (litres product/hectare)	Maximum number of applications (per crop)	Latest time of application (days before harvest)
Carrot (outdoor)	1.0	2	14
Leek (outdoor)	1.0	1	21
Cabbage (outdoor), Brussels sprouts (outdoor)	1.0	2	21
Outdoor crops of Cauliflower, broccoli/calabrese, kale (winter greens) and collards (spring greens)	1.0	2	14
Rocket (outdoor).	1.0	2	14
Outdoor and Protected strawberry	1.0	2	3

Crops/situations:	Aquatic buffer zone distance (metres):	Comment:
Broccoli/calabrese, Brussels sprout, cabbage, carrot, cauliflower, collard, kale, leek, rocket (outdoor), strawberry (outdoor), strawberry (protected)	5	See Environmental protection (Safety precautions section)

**Other specific restrictions:**

- For use on broccoli/calabrese, Brussels sprout, cabbage, cauliflower, collards, kale and outdoor rocket, the maximum total dose of difenoconazole must not exceed 250 g per hectare per year.
- For the use on carrots the maximum total dose of difenoconazole must not exceed 375 g per hectare.
- When using in sequence with other azoxystrobin containing products, or on multiple short season crops of broccoli, calabrese, Brussels sprouts, cabbage, cauliflower, collards and kale, the maximum total dose of azoxystrobin must not exceed 500 g azoxystrobin per hectare per year.

**READ THE 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.**

**SAFETY PRECAUTIONS****(a) 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 when handling the concentrate or applying by hand-held equipment.

WEAR SUITABLE PROTECTIVE GLOVES when handling contaminated surfaces.

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.

WASH SPLASHES from skin or eyes immediately.

WASH HANDS AND EXPOSED SKIN before meals and after work.

IF YOU FEEL UNWELL, seek medical advice immediately (show the label where possible).

**(b) 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.

**For use in the UK**

To protect aquatic organisms respect an unsprayed buffer zone to surface water bodies in line with LERAP requirements.



DO NOT ALLOW DIRECT SPRAY from ground crop sprayers to fall within 5 m of the top of the bank of a static or flowing waterbody unless a Local Environmental Risk Assessment for Pesticides (LERAP) permits a narrower buffer zone, or within 1 m of the top of a ditch which is dry at the time of application. DO NOT ALLOW DIRECT SPRAY from hand-held sprayers to fall within 1 m of the top of the bank of a static or flowing water body. Aim spray away from water. This product qualifies for inclusion within the Local Environmental Risk Assessment for Pesticides (LERAP) scheme. A LERAP must be carried out in accordance with CRD published guidance before each spraying operation from a ground crop sprayer. The results of the LERAP must be recorded and the records kept available for inspection for three years.

**For use in Ireland**

To protect aquatic organisms respect an unsprayed buffer zone of 5m to surface water bodies.

**(c) 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.

RINSE CONTAINER THOROUGHLY by using an integrated pressure rinsing device or manually rinsing three times. Add washings to sprayer at time of filling and dispose of safely.

DO NOT RE-USE CONTAINER for any other purpose.



