Vortex®

MAPP 17112
An emulsifiable concentrate containing 41.6 g/litre (4 % w/w) epoxiconazole and 41.6 g/litre (4 % w/w) fluxapyroxad and 61 g/litre (5.8 % w/w) pyraclostrobin.
A systemic fungicide for use in winter wheat, spring wheat, durum wheat, winter barley, spring barley, triticale, rye and oats.

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

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), SUITABLE PROTECTIVE GLOVES AND FACE PROTECTION (FACESHIELD) when handling the concentrate.
WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) AND 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 HANDS AND EXPOSED SKIN before meals and after work.

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 distance to surface water bodies in line with LERAP requirements.
DO NOT ALLOW DIRECT SPRAY from horizontal boom sprayers to fall within 5m of the top of the bank of a static or flowing waterbody, unless a Local Environment Risk Assessment for Pesticides (LERAP) permits a narrower buffer zone, or within 1m of the top of a ditch which is dry at the time of application. Aim spray away from water.

Storage and disposal
KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDINGSTUFFS.
KEEP OUT OF REACH OF CHILDREN.
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.
Store in a suitable pesticide store. Keep dry and protect from frost.
Do not re-use container for any purpose.

Supplied by:
BASF plc
Crop Protection
PO Box 4, Earl Road
Cheadle Hulme, CHEADLE
Cheshire SK8 6QG
Tel: 0161 485 6222
Emergency Information: (24 hours freephone): 0049 180 2273112
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UN 3082
Packing Group III
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains FLUXAPYROXAD, PYRACLOSTROBIN) MARINE POLLUTANT

This label is compliant with the CPA Voluntary Initiative Guidance

® = Registered trademark of BASF
Vortex®

An emulsifiable concentrate containing 41.6 g/litre (4% w/w) epoxiconazole and 41.6 g/litre (4% w/w) fluxapyroxad and 61 g/l (5.8% w/w) pyraclostrobin. Contains propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)-.

May cause an allergic reaction.

DANGER:
HARMFUL IF SWALLOWED
CAUSES SKIN IRRITATION
MAY CAUSE AN ALLERGIC SKIN REACTION.
CAUSES SERIOUS EYE DAMAGE.
HARMFUL IF INHALED.
SUSPECTED OF CAUSING CANCER.
MAY DAMAGE THE UNBORN CHILD.
SUSPECTED OF DAMAGING FERTILITY.
VERY TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

WEAR PROTECTIVE GLOVES/PROTECTIVE CLOTHING/
EYE PROTECTION/FACE PROTECTION.
USE ONLY OUTDOORS OR IN A WELL-VENTILATED AREA.
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 CENTRE OR DOCTOR/PHYSICIAN.
STORE LOCKED UP.
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.

This product is approved under the Plant Protection Products Regulation (EC) No 1107/2009

IMPORTANT INFORMATION
FOR USE ONLY AS AN AGRICULTURAL FUNGICIDE, as directed below:

<table>
<thead>
<tr>
<th>Crops</th>
<th>Maximum individual dose</th>
<th>Maximum number of applications</th>
<th>Latest time of application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winter and spring wheat, Rye, Triticale, Durum wheat</td>
<td>3.0 litres product per hectare</td>
<td>2 per crop</td>
<td>Up to and including flowering (anthesis) just complete (GS 69)</td>
</tr>
<tr>
<td>Winter and spring barley, Oats</td>
<td>3.0 litres product per hectare</td>
<td>2 per crop</td>
<td>Up to and including emergence of ear just complete (GS 59)</td>
</tr>
</tbody>
</table>

Other specific restriction:
Vortex must not be applied before GS 30 (pseudo-stem erect).

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.
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.

Vortex is a systemic fungicide with protectant and curative properties for use in winter wheat, spring wheat, durum wheat, winter barley, spring barley, triticale, rye and oats.

1. Restrictions/Warnings
This product may cause damage to broad-leaved plant species.
Extreme care must be taken to avoid drift onto nearby crops.
When applied to barley intended for malting, refer to the latest timing restrictions for fluxapyroxad, epoxiconazole and pyraclostrobin given by the British Beer and Pub Association.
No more than two applications of any QoI fungicide may be made to crops of wheat, barley, oats, rye or triticale.
Wash equipment thoroughly after use.

2. Disease Control
Vortex is a systemic fungicide with protectant and curative properties for the control of a range of diseases in winter wheat, spring wheat, durum wheat, winter barley, spring barley, triticale, rye and oats as summarised below.

In addition, when applied for disease control this product may increase green leaf area retention of wheat, barley, rye and triticale.

<table>
<thead>
<tr>
<th>Disease</th>
<th>Winter wheat</th>
<th>Spring wheat</th>
<th>Durum wheat</th>
<th>Winter barley</th>
<th>Spring barley</th>
<th>Oats</th>
<th>Rye</th>
<th>Triticale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Septoria tritici</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>C</td>
</tr>
<tr>
<td>Septoria nodorum</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>C</td>
</tr>
<tr>
<td>Brown rust</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>-</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>Yellow rust</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>-</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>Crown rust</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>C</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Eyespot</td>
<td>MC</td>
<td>-</td>
<td>MC</td>
<td>-</td>
<td>-</td>
<td>MC</td>
<td>MC</td>
<td>MC</td>
</tr>
<tr>
<td>Net blotch</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>C</td>
<td>C</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Rhynchosporium</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>-</td>
</tr>
<tr>
<td>Powdery mildew</td>
<td>MC</td>
<td>MC</td>
<td>MC</td>
<td>MC</td>
<td>MC</td>
<td>MC</td>
<td>MC</td>
<td>MC</td>
</tr>
<tr>
<td>Ramularia</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>C</td>
<td>C</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Tan spot</td>
<td>MC</td>
<td>MC</td>
<td>MC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Fusarium ear blight #</td>
<td>GR</td>
<td>GR</td>
<td>GR</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sooty moulds (Cladosporium, Botrytis)</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

C = Control                   MC = Moderate Control   GR = Good Reduction   R = Reduction
Application of Vortex to ears of wheat can lead to reduction of the levels of the mycotoxin deoxynivalenol (DON) associated with *Fusarium* ear blight infection, but this level of effect may not necessarily lead to reduction of DON below the statutory limit in wheat grain.

**Resistance**
Vortex should be used in accordance with the instructions for use for the target diseases at the specific growth stages indicated.

Use Vortex as part of an Integrated Crop Management (ICM) strategy incorporating other methods of control.

Vortex contains pyraclostrobin, a member of the QoI cross resistance group. Vortex should be used preventatively and should not be relied on for its curative potential. You must not apply more than two foliar applications of QoI containing products to any cereal crop.

When curative activity is needed apply QoI fungicides in mixture with a suitable dose of a curative fungicide from a different cross-resistance group. Vortex meets this requirement as it contains epoxiconazole and fluxapyroxad. To ensure the effectiveness of the epoxiconazole and fluxapyroxad components as a partner, Vortex should always be applied at the full recommended rate.

Vortex contains epoxiconazole, 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.

Strains of barley powdery mildew resistant to QoI’s are common in the UK.

Vortex contains fluxapyroxad which belongs to the SDHI (carboxamide) group of fungicides. To minimise the risk of resistance occurring, apply a maximum of two SDHI fungicide sprays per cereal crop.

**3. Crops**
Vortex is a systemic fungicide with protectant and curative properties for use in winter wheat, spring wheat, durum wheat, winter barley, spring barley, triticale, rye and oats.

**Time of Application**
Apply Vortex at the start of foliar disease attack. A maximum of two applications can be made up to and including flowering just complete in winter and spring wheat, durum wheat, rye and triticale and up to and including emergence of ear just complete in winter and spring barley and oats.

For optimum effect against eyespot with Vortex apply between the leaf sheaths erect and second node detectable stages of the crop.

For protection against *Fusarium* ear blight and sooty mould on the ears of winter and spring wheat, and durum wheat apply Vortex during ear emergence.

**Rate of Application**
Apply 3 litres of Vortex per hectare in 150 to 300 litres of water per hectare.

**Qualified recommendation**
Vortex may be applied at 3.0 litres per hectare in 100 litres water per hectare, although efficacy at this reduced volume has not been evaluated. Therefore application at 100 litres water per hectare is at user's risk with regard to biological efficacy.
4. **Following crops**
After treating a cereal crop with Vortex, cabbage, carrot, clover, dwarf French beans, field beans, lettuce, maize, oats, oilseed rape, onions, peas, potatoes, ryegrass, sugar beet, sunflower, winter barley and winter wheat may be sown as the following crop. The effect of Vortex on other following crops has not been assessed.

5. **Mixing and Spraying**
Apply as a MEDIUM spray, as defined by BCPC.
Half fill the spray tank with clean water and start the agitation. SHAKE THE CONTAINER WELL before use and pour in the required amount of product. Rinse any empty containers thoroughly and add rinsings to the spray tank. Add the remainder of the water and continue agitation until spraying is completed.
Thoroughly rinse application equipment three times with water immediately after use.
When tank mixes are to be used, each product should be added separately to the spray tank, taking due note of any instructions given as to the order of mixing.

6. **Compatibility**

6.1 **Compatible mixtures**
For details of compatibilities contact your distributor, local BASF representative or the BASF Technical Services Hotline: 0845 602 2553 or visit our website on: www.agriCentre.basf.co.uk.

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**COMPANY ADVISORY INFORMATION**

The following does not form part of the product label under the Plant Protection Products Regulation (EC) No 1107/2009

With many products there is a general risk of resistance developing to the active ingredients. For this reason a change in activity cannot be ruled out. It is generally impossible to predict with certainty how resistance may develop because there are so many crop and use connected ways of influencing this. We therefore have to exclude liability for damage or loss attributable to any such resistance that may develop. To help minimise any loss in activity the BASF recommended rate should in all events be adhered to.

Numerous, particularly regional or regionally attributable, factors can influence the activity of the product. Examples include weather and soil conditions, crop plant varieties, crop rotation, treatment times, application amounts, admixture with other products, appearance of organisms resistant to active ingredients and spraying techniques. Under particular conditions a change in activity or damage to plants cannot be ruled out. The manufacturer or supplier is therefore unable to accept any liability in such circumstances. All goods supplied by us are of high grade and we believe them to be suitable, but as we cannot exercise control over their mixing or use or the weather conditions during and after application, which may affect the performance of the material, all conditions and warranties, statutory or otherwise, as to the quality or fitness for any purpose of our goods are excluded and no responsibility will be accepted by us for any damage or injury whatsoever arising from their storage, handling, application or use; but nothing should be deemed to exclude or restrict any liability upon us which cannot be excluded or restricted under the provisions of the Unfair Contract Terms Act 1977 or any similar applicable law.
Section 6 of the Health and Safety at Work Act
Additional Product Safety Information

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 “off-label” approval or is otherwise permitted under the Plant Protection Products Regulation (EC) No 1107/2009.

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

Safety Data Sheet

To access the Safety Data Sheet for this product scan the QR code or use the weblink below:

http://www.agricentre.basf.co.uk/go/vortex_sds

Alternatively, contact your supplier.
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WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) AND 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 HANDS AND EXPOSED SKIN before meals and after work.

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 distance to surface water bodies in line with LERAP requirements.
DO NOT ALLOW DIRECT SPRAY from horizontal boom sprayers to fall within 5m of the top of the bank of a static or flowing waterbody, unless a Local Environment Risk Assessment for Pesticides (LERAP) permits a narrower buffer zone, or within 1m of the top of a ditch which is dry at the time of application. Aim spray away from water.
This product qualifies for inclusion within the Local Environment Risk Assessment for Pesticides (LERAP) scheme. Before each spraying operation from a horizontal boom sprayer, either a LERAP must be carried out in accordance with CRD’s published guidance or the statutory buffer zone must be maintained. The results of the LERAP must be recorded and kept available for inspection for three years.

Storage and disposal
KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDINGSTUFFS.
KEEP OUT OF REACH OF CHILDREN.
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.
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