PMRA Approved Label, CK
2023-0993, 2023-12-08

GROUP 3 FUNGICIDE

ORIUS® 430 SC

Foliar Fungicide

SUSPENSION

FOR SUPPRESION OF FUSARIUM HEAD BLIGHT AND CONTROL OF FOLIAR DISEASES ON WHEAT (SPRING, WINTER AND DURUM), BARLEY AND OATS, SOYBEAN AND CERTAIN MINOR USE CROPS

COMMERCIAL - AGRICULTURAL

READ THE LABEL AND BOOKLET BEFORE USING

KEEP OUT OF REACH OF CHILDREN

ACTIVE INGREDIENT: Tebuconazole 430 g/L

Contains 1,2 benzisothiazolin-3-one at 0.014% as a preservative
OR
Contains 5-Chloro-2-methyl-4-isothiazolin-3-one at 0.00114% and 2-Methyl-4-isothiazolin-3-one at 0.00037% as preservatives.

Warning, contains the allergen soy.

REGISTRATION NO. 33673 PEST CONTROL PRODUCTS ACT

NET CONTENTS: 1 - 1050 litres

ADAMA Agricultural Solutions Canada Ltd.
300-191 Lombard Avenue
Winnipeg, Manitoba R3B 0X1
1-855-264-6262

For emergency medical help call PROPHARMA at 1-877-250-9291 (24 hours a day)
For spill, leak or fire call INFOTRAC at 1-800-535-5053 (24 hours a day)

(Back Panel of the Jug)

PRECAUTIONS
KEEP OUT OF REACH OF CHILDREN.

Harmful if swallowed, inhaled or absorbed through skin. Avoid contact with skin, eyes, and clothing. Avoid breathing vapor or spray mist.

Wear coveralls over long pants, long-sleeved shirt, chemical-resistant gloves, socks and boots during mixing, loading, application, clean-up and repair activities. Coveralls and gloves are not required during application within closed cabs or cockpits. Follow manufacturer's instructions for cleaning/maintaining the Personal Protective Clothing (PPE). If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Apply only when the potential for drift to areas of human habitation or areas of human activity such as houses, cottages, schools and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

FIRST AID
IF SWALLOWED: Call a poison control centre or doctor immediately for treatment advice. Have a person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice.
IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.
IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION
The compound does not cause any definite symptoms that would be diagnostic. Contact with the eyes may cause irritation. Vomiting may cause aspiration pneumonia.

To Physician: No specific antidote. Treat symptomatically.

ENVIRONMENTAL PRECAUTIONS
Tebuconazole is persistent and will carryover. It is recommended that any products containing

tebuconazole not be used in areas treated with this product during the previous season.

Toxic to birds, small wild animals, aquatic organisms, and non-target terrestrial plants. Observe spray buffer zones specified under Section 12: SPRAY BUFFER ZONES and MINOR USES which is under 'Section 13: REGISTERED CROPS AND APPLICATION TIMING". As this product is not registered for the control of pests in aquatic systems, DO NOT use to control aquatic pests. Do not apply to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Runoff is hazardous to aquatic organisms in neighboring areas.
To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to steep slope, compacted soil, or clay. Avoid application when heavy rain is forecasted. Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative filter strip between the treated area and the edge of the water body. To reduce the run off refer to the recommendations APPLICATION IN FIELDS ADJACENT TO AQUATIC AREAS under Section 12: SPRAY BUFFER ZONES.

STORAGE
1. Store above 5°C in original, tightly closed container.
2. Do not ship or store near food, feed, seed and fertilizers.
3. Store in cool, dry, locked, well-ventilated area without floor drain.
4. Keep from freezing.

DISPOSAL
Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsate to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial requirements. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

NOTICE TO USER
This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label.

GROUP 3 FUNGICIDE

ORIUS® 430 SC Foliar Fungicide

SUSPENSION

FOR SUPPRESION OF FUSARIUM HEAD BLIGHT AND CONTROL OF FOLIAR DISEASES ON WHEAT (SPRING, WINTER AND DURUM), BARLEY AND OATS, SOYBEAN AND CERTAIN MINOR USE CROPS

COMMERCIAL - AGRICULTURAL

READ THE LABEL AND BOOKLET BEFORE USING

KEEP OUT OF REACH OF CHILDREN

ACTIVE INGREDIENT: Tebuconazole 430 g/L

Contains 1,2 benzisothiazolin-3-one at 0.014% as a preservative
OR
Contains 5-Chloro-2-methyl-4-isothiazolin-3-one at 0.00114% and 2-Methyl-4-isothiazolin-3-one at 0.00037% as preservatives

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GENERAL INFORMATION

SECTION 1: THE PRODUCT

ORIUS® 430 SC can be applied as a post-emergent treatment in wheat (spring, winter, durum), barley, oats, soybeans and other certain minor use crops for the suppression of fusarium head blight and control of listed foliar diseases.

SAFETY AND HANDLING

SECTION 2: PRECAUTIONS, PROTECTIVE CLOTHING AND EQUIPMENT, AND RE-ENTRY RESTRICTIONS

KEEP OUT OF REACH OF CHILDREN.

Harmful if swallowed, inhaled or absorbed through skin. Avoid contact with skin, eyes, and clothing. Avoid breathing vapor or spray mist.
Wear coveralls over long pants, long-sleeved shirt, chemical-resistant gloves, socks and boots during mixing, loading, application, clean-up and repair activities. Coveralls and gloves are not required during application within closed cabs or cockpits.

Follow manufacturer's instructions for cleaning/maintaining the Personal Protective Clothing (PPE). If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Ensure no bystanders are present during the application operation. Only protected handlers may be in the area during application. Use mechanical flaggers only. Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours after application.

SECTION 3: FIRST AID

If swallowed: Call a poison control centre or doctor immediately for treatment advice. Have a person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice.

If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

SECTION 4: TOXICOLOGICAL INFORMATION

The compound does not cause any definite symptoms that would be diagnostic. Contact with the eyes may cause irritation. Vomiting may cause aspiration pneumonia.

To Physician: No specific antidote. Treat symptomatically.

SECTION 5: ENVIRONMENTAL PRECAUTIONS

Tebuconazole is persistent and will carryover. It is recommended that any products containing tebuconazole not be used in areas treated with this product during the previous season.

Toxic to birds, small wild animals, aquatic organisms, and non-target terrestrial plants. Observe spray buffer zones specified under Section 12: SPRAY BUFFER ZONES and MINOR USES which is under 'Section 13: REGISTERED CROPS AND APPLICATION TIMING". As this product is not registered for the control of pests in aquatic systems, DO NOT use to control aquatic pests. Do not apply to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Runoff is hazardous to aquatic organisms in neighboring areas. To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to steep slope, compacted soil, or clay. Avoid application when heavy rain is forecasted. Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative filter strip between the treated area and the edge of the water body. To reduce the run off refer to the recommendations under APPLICATION IN FIELDS ADJACENT TO AQUATIC AREAS under Section 12: SPRAY BUFFER ZONES.

SECTION 6: STORAGE

1. Store above 5° C in original, tightly closed container.
2. Do not ship or store near food, feed, seed and fertilizers.
3. Store in cool, dry, locked, well-ventilated area without floor drain.
4. Keep from freezing.

SECTION 7: DISPOSAL

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial requirements. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

SECTION 8: NOTICE TO USER

This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label.

DIRECTIONS FOR USE

SECTION 9: AERIAL APPLICATION LABEL INSTRUCTIONS

Apply only by fixed-wing or rotary aircraft equipment which has been functionally and operationally calibrated for the atmospheric conditions of the area and the application rates and conditions of this label.

Label rates, conditions and precautions are product specific. Read and understand the entire label before opening this product. Apply only at the rate recommended for aerial application on this label. Where no rate for aerial application appears for the specific use, this product cannot be applied by any type of aerial equipment.

Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices, or equivalent electronic position systems (GPS). The use of a spotter plane is recommended. Use mechanical flaggers only.

Use Precautions
Apply only when meteorological conditions at the treatment site allow for complete and even crop coverage. Apply only under conditions of good practice specific to aerial application as outlined in the National Aerial Pesticide Application Manual, developed by the Federal/Provincial/Territorial committee on pest management and Pesticides.

Operator Precautions
Do not allow the pilot to mix chemicals to be loaded onto the aircraft. Loading of premixed chemicals with a closed system is permitted.

It is desirable that the pilot have communication capabilities at each treatment site at the time of application.

The field crew and the mixer/loaders must wear coveralls over long pants, long-sleeved shirt,

chemical-resistant gloves and goggles or face shield during mixing, loading, clean-up and repair activities. Coveralls and chemical-resistant gloves are not required during application within closed cockpits. Follow the more stringent label precautions in cases where the operator precautions exceed the generic label recommendations on the existing ground boom label.
All personnel on the job site must wash hands and face thoroughly before eating and drinking. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.

Product Specific Precautions
Read and understand the entire label before opening this product. If you have questions, call the manufacturer at 1-855-264-6262 or obtain technical advice from the distributor or your provincial agricultural representative. Application of this specific product must meet and/or conform to the following:

Volume: Apply the recommended rate in a minimum spray volume of 47 L/ha.

SECTION 10: APPLICATION INSTRUCTIONS AND USE LIMITATIONS

- DO NOT apply more than once per crop season for wheat, barley, oats, soybean and certain other minor use crops.
- DO NOT apply this product through any type of irrigation system.
- DO NOT apply when weather conditions may cause spray drift from treated areas to adjacent crops.
- DO NOT apply this product directly to freshwater habitats (such as lakes, rivers, sloughs, ponds, coulees, prairie potholes, creeks, marshes, streams, reservoirs, ditches and wetlands), estuaries or marine habitats.
- Field sprayer application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE S572.1) medium classification. Boom height must be 60 cm or less above the crop or ground.
- Airblast application**: DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** direct spray above plants to be treated. Turn off outward pointing nozzles at row ends and outer rows. **DO NOT** apply when wind speed is greater than 16 km/h at the application site as measured outside of the treatment area on the upwind side.
- Aerial application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply when wind speed is greater than 16 km/h at flying height at the site of application. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE S572.1) medium classification. To reduce drift caused by turbulent wingtip vortices, the nozzle distribution along the spray boom length **MUST NOT** exceed 65% of the wing- or rotorspan.
- As this product is not registered for the control of pests in aquatic systems, DO NOT use to control aquatic pests.
- **DO NOT** contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.
- Apply only when the potential for drift to areas of human habitation or areas of human

activity (houses, cottages, schools and recreational areas) is minimal. Take into consideration wind speed, wind direction, temperature inversion, application equipment and sprayer settings.

- ORIUS® 430 SC should be applied in a minimum of 100 litres of spray solution per hectare by ground sprayer or 47 litres of spray solution per hectare by aircraft spray equipment. Check equipment calibration frequently.

SPRAY DRIFT MANAGEMENT FOR AERIAL AND GROUND APPLICATIONS

For the protection of non-target habitats, overspray or drift to any body of water or other environmentally sensitive habitats must be avoided. Do not apply under conditions where drift to an unprotected person(s), occupied dwelling, or to food, forage, or other plantings can occur. The interaction of many equipment- and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.

1. **SPRAY BOOM:** For aerial applications, the **spray boom** should be mounted on the aircraft so as to minimize drift caused by wing tip vortices. The minimum practical boom length should be used and must not exceed 65% of the wing span or rotor diameter.

2. **DROPLET SIZE:** An important factor influencing drift is the droplet size. Small droplets (<150 to 200 microns) drift to a greater extent than large droplets. Within typical equipment specifications, applications should be made to deliver the largest **droplet spectrum** that provides sufficient control and coverage. Formation of very small droplets may be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible and by avoiding excessive spray boom pressure.

3. **SPRAY HEIGHT:** For aerial applications, spray should be released at the lowest height consistent with efficacy and flight safety. Applications more than 3 metres above the crop canopy should be avoided.

4. **WIND:** Do not apply during periods of dead calm, when winds are gusty or when wind speed is greater than 16 km/hour at flying height at the site of application. Use extreme caution when any body of water or other environmentally sensitive habitat is on downwind side of aircraft.

5. **TEMPERATURE INVERSIONS:** Do not make aerial or ground applications during temperature inversions. Drift potential is high during temperature inversions. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a cloud. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however if fog is not present, inversions can also be identified by the movement of smoke from a ground source. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical mixing.

6. **HUMIDITY AND TEMPERATURE:** Low humidity and high temperatures increase the evaporation rate of spray droplets and therefore the likelihood of increased spray drift. Avoid spraying during conditions of low humidity and/or high temperature.

SECTION 11: PRE-HARVEST, GRAZING AND FEEDING INTERVALS

Wheat, barley and oats - Applications may not be made within 36 days of harvest. Do not allow livestock to graze or feed green forage to livestock prior to 6 days after treatment. Straw cut after harvest may be fed or used for bedding.

Soybean Restrictions: A maximum of one application of ORIUS® 430 SC may be applied per crop season to soybeans. Applications may not be made within 20 days of harvest.

Asparagus: Do not apply to harvestable spears. Pre-harvest Interval: 8 months.

SECTION 12: SPRAY BUFFER ZONES

The spray buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, riparian areas and shrub lands). In addition to the spray buffer zones specified in the table below, users must also observe spray buffer zones specified under APPLICATION IN FIELDS ADJACENT TO AQAUTIC AREAS.

Method of Application	**Crop**		**Spray Buffer Zones (metres) Required for the Protection of: Terrestrial Habitat**
Field sprayer	Wheat (spring, winter, durum), Barley, Oats and Soybean, Asparagus		1
Aerial	Wheat (spring, winter, durum), Barley, Oats and Soybean	Fixed and rotary wing	15

When tank mixes are permitted, consult the labels of the tank-mix partners and observe the largest (most restrictive) spray buffer zone of the products involved in the tank mixture and apply using the coarsest spray (ASAE) category indicated on the labels for those tank mix partners.

The spray drift buffer zones required for the protection of terrestrial habitats for this product can be modified based on weather conditions and spray equipment configuration by accessing the Spray Buffer Zone Calculator on the Pesticides portion of the Canada.ca web site.

APPLICATION IN FIELDS ADJACENT TO AQUATIC AREAS:
OBSERVE THE FOLLOWING PRECAUTIONS WHEN SPRAYING IN THE VICINITY OF AQUATIC AREAS SUCH AS LAKES, RESERVOIRS, RIVERS, PERMANENT STREAMS, MARSHES OR NATURAL PONDS, AND ESTUARIES.

DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes. To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to steep slope, compacted soil, or clay. Avoid application when heavy rain is forecasted.

Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative filter strip between the treated area and the edge of the water body. This product should be used only in alternate years. Do not apply by ground or air within 30 metres of aquatic areas listed above.

Do not cultivate within 3 metres of an aquatic area to allow growth of a vegetative filter strip. The aquatic buffer zone of 30 meters **may not** be modified by the Buffer Zone Calculator on the Pest Management Regulatory Agency web site.

SECTION 13: REGISTERED CROPS AND APPLICATION TIMING

REGISTERED CROPS:
ORIUS® 430 SC is registered for suppression of fusarium head blight and control of foliar diseases on wheat (spring, winter and durum), barley, oats, soybeans and certain minor use crops.

When applied as directed, ORIUS® 430 SC will control the listed diseases, unless otherwise indicated as suppression.

WHEAT (SPRING, WINTER AND DURUM), BARLEY AND OATS:

CROP	DISEASE CONTROLLED	APPLICATION RATE	REMARKS
Wheat (spring, winter, durum)	For suppression of fusarium head blight (*Gibberella zeae/Fusarium graminearum*) For control of Septoria glume blotch (*Stagonospora nodorum*)	292 mL/ha	ORIUS® 430 SC should only be applied when the risk of fusarium head blight infection is high. Consult your local extension authority regarding the need for ORIUS® 430 SC use. Head blight is extremely difficult to control. For that reason, only suppression of fusarium head blight is claimed. Fusarium head blight outbreaks occur when the weather is warm and wet at the flowering to soft dough stages. The application of ORIUS® 430 SC for protection against fusarium head

			blight should be considered when these weather conditions are forecasted for this stage of wheat development. **Timing of application is critical:** For optimum suppression of fusarium head blight and control of septoria glume blotch, apply ORIUS® 430 SC within the time period from when at least 75% of the wheat heads on the main stem are fully emerged to when 50% of the heads on the main stem are in flower. **Spray coverage is essential:** Ensure thorough coverage of all wheat heads. Spray equipment must be set up to provide good coverage to wheat heads. ORIUS® 430 SC may be applied by ground or air equipment **GROUND APPLICATION:** Apply specified dosage in a minimum of 100 L of water per hectare. **AERIAL APPLICATION:** Apply specified dosage in a minimum of 47 L of water per hectare. ORIUS® 430 SC is recommended to be used with a registered non-ionic surfactant, such as Agral® 90 or AgSurf at 0.125% vol/vol. **NB. A tank mixture of SORATEL + ORIUS 430 SC for suppression of Fusarium Head Blight can be used instead of using ORIUS 430 SC alone. Refer to SORATEL TANK MIX with ORIUS 430 SC for WHEAT and BARLEY below.**

	Leaf rust (*Puccinia triticina*), Stem rust (*Puccinia graminis*), Stripe rust (*Puccinia striiformis*) Septoria leaf blotch *(Septoria tritici)* Tan spot *(Pyrenophora tritici-repentis)*	220-292 mL/ha	Apply ORIUS® 430 SC to leaf foliage at the first sign or very early stage of disease, especially if weather conditions are conducive to disease development, up to the end of the flowering stage. Where a rate range is specified, use of the higher rate should be considered when weather conditions are conducive to heavy disease development. ORIUS® 430 SC may be applied by ground or air equipment **GROUND APPLICATION:** Apply specified dosage in a minimum of 100 L of water per hectare. **AERIAL APPLICATION:** Apply specified dosage in a minimum of 47 L of water per hectare. ORIUS® 430 SC is recommended to be used with a registered non-ionic surfactant, Agral® 90 or AgSurf, at 0.125% vol/vol.
	Powdery mildew *(Erysiphe graminis)*	292 mL/ha	
Barley	Net blotch (*Pyrenophora teres*) Spot blotch (*Cochliobolus sativus*) Scald (*Rhynchosporium secalis*) Leaf rust (*Puccinia hordei*) Stem rust (*Puccinia graminis*)	220-292 mL/ha	Apply ORIUS® 430 SC at the very early stages of disease development. Where a rate range is specified, use of the higher rate should be considered when weather conditions are conducive to heavy disease development. ORIUS® 430 SC may be applied by ground or air equipment. **GROUND APPLICATION:** Apply specified dosage in a minimum of 100 L of water per hectare.

	Stripe rust (*Puccinia striiformis*) Septoria leaf blotch (*Septoria passerinii*) Powdery mildew (*Erysiphe graminis*)		**AERIAL APPLICATION:** Apply specified dosage in a minimum of 47 L of water per hectare. ORIUS® 430 SC is recommended to be used with a registered non-ionic surfactant, Agral® 90 or AgSurf, at 0.125% vol/vol. **NB. A tank mixture of SORATEL + ORIUS 430 SC for suppression of Fusarium Head Blight can be used. Refer to SORATEL TANK MIX with ORIUS 430 SC for WHEAT and BARLEY below.**
Oats	Crown rust (*Puccinia coronata*) Stem rust (*Puccinia graminis*)	220 mL/ha	Apply ORIUS® 430 SC at the very early stages of disease development. Where a rate range is specified, use of the higher rate should be considered when weather conditions are conducive to heavy disease development. ORIUS® 430 SC may be applied by ground or air equipment **GROUND APPLICATION:** Apply specified dosage in a minimum of 100 L of water per hectare. **AERIAL APPLICATION:** Apply specified dosage in a minimum of 47 L of water per hectare. ORIUS® 430 SC is recommended to be used with a registered non-ionic surfactant, Agral® 90 or AgSurf, at 0.125% vol/vol.
Restrictions: A maximum of one application of ORIUS® 430 SC may be applied per crop season to wheat, barley and oats. Applications may not be made within 36 days of harvest. Do not allow livestock to graze or feed green forage to livestock prior to 6 days after treatment with ORIUS® 430 SC Foliar Fungicide. Straw cut after harvest may be fed or used for bedding.			

SORATEL TANK MIX with ORIUS 430 SC for WHEAT and BARLEY

<table>
<tr><th colspan="4">CEREALS (Barley, Wheat) SORATEL plus ORIUS 430 SC FOLIAR FUNGICIDE</th></tr>
<tr><th>CROP</th><th>DISEASE</th><th>RATE</th><th>TIMING</th></tr>
<tr><td rowspan="2">Wheat (spring, durum and winter)

Barley</td><td rowspan="2">For Suppression of Fusarium Head Blight (Fusarium spp.)</td><td rowspan="2">Apply SORATEL at 0.4 L/ha (100 g a.i./ha)

plus

ORIUS 430 SC at 0.232 L/ha (100 g a.i./ha)

Optional: plus a Non-ionic Surfactant (NIS) (e.g. ADAMA Adjuvant 80) at 0.125% v/v</td><td>Fusarium head blight outbreaks in wheat and barley occur when the weather is warm and wet at head emergence and flowering. The application of SORATEL + ORIUS 430 SC at the specified application rate for protection against Fusarium Head Blight (Scab) should be considered when these environmental conditions are forecasted for this stage of wheat and barley development.

<u>Timing of application is critical</u>: For optimum suppression of Fusarium Head Blight, apply the tank mix of SORATEL + ORIUS 430 SC as a preventative spray in:
• WHEAT: within the time period from when at least 75% of the wheat heads on the main stem are fully emerged to when 50% of the heads on the main stem are in flower.
• BARLEY: within the time period from when at least 70 to 100% of the barley main stem heads are fully emerged, to 3 days after full head emergence and 75% of the wheat heads on the main stem are fully emerged to when 50% of the heads on the main stem are in flower.

Apply by ground application equipment ONLY at the specified dosage in a minimum of 100 L of water per hectare.</td></tr>
<tr><td>Apply the tank mix of SORATEL + ORIUS 430 SC to leaf foliage at the first sign or very early stage of disease, especially if weather conditions are conducive to disease development, up to the end of the flowering stage.</td></tr>
<tr><td colspan="4">RESTRICTIONS:
<u>Maximum number of applications per year:</u> A maximum of one (1) application of the SORATEL + ORIUS 430 SC tank-mix described above may be applied per wheat and barley crop per year.
<u>Pre-harvest Interval:</u> Do not apply within 36 days of harvest.</td></tr>
</table>

Grazing Interval: Do not allow livestock to graze or feed green forage to livestock prior to 6 days after treatment. Straw cut after harvest may be fed or used for bedding.
Restricted Entry Interval: Do not enter treated fields for 12 hours after application.

Tank Mix Combinations with Herbicides:

Tank Mixtures
This product may be tank mixed with a fertilizer, a supplement, or with registered pest control products, whose labels also allow tank mixing, provided the entirety of both labels, including Directions For Use, Precautions, Restrictions, Environmental Precautions, and Spray Buffer Zones are followed for each product. In cases where these requirements differ between the tank mix partner labels, the most restrictive label must be followed. Do not tank mix products containing the same active ingredient unless specifically listed on this label.

In some cases, tank mixing pest control products can result in reduced pesticide efficacy or increased host crop injury. The user should contact ADAMA Agricultural Solutions Canada Ltd. at 1-855-264-6262 for information before applying any tank mix that is not specifically recommended on this label.

CROP	**DISEASES and WEEDS**	**TANKMIXES**	**REMARKS**
Wheat	Leaf Diseases on the ORIUS® 430 SC label and weeds on the respective herbicide labels	ORIUS® 430 SC at 220 mL/ha + Badge® at 1.25 L/ha	Apply ORIUS® 430 SC and herbicide at labeled rates for the respective leaf diseases and weeds in wheat. Apply once when plants are at the 4-leaf stage up to the early flag leaf stage.
		ORIUS® 430 SC at 220 mL/ha + Puma® 120 Super at 385 or 770 mL/ha + Badge® at 1.25L/ha ORIUS® 430 SC at 220 mL/ha + Puma® 120 Super at 385 or 770 mL/ha + Refine Extra® at 20 g/ha	For use in the prairie provinces and Peace River region of British Columbia only. Apply ORIUS® 430 SC and herbicides at labeled rates for the respective leaf diseases and weeds in wheat. Apply once when plants are at the 4-leaf stage up to the 3rd tiller stage. DO NOT apply ORIUS® 430 SC mixed with Puma® 120 Super 2-3 days prior to of following cold temperatures (3ºC or lower) as crop injury may occur.

Barley	Leaf Diseases on the ORIUS® 430 SC label and weeds on the respective herbicide labels	ORIUS® 430 SC at 220 mL/ha + Puma® 120 Super at 385 or 770 mL/ha + Refine Extra® at 20 g/ha	For use in the prairie provinces and Peace River region of British Columbia only. Apply ORIUS® 430 SC and herbicides at labeled rates for the respective leaf diseases and weeds in barley. Apply once when plants are at the 4-leaf stage to the 5-leaf, 2nd tiller stage. DO NOT apply ORIUS® 430 SC mixed with Puma® 120 Super 2-3 days prior to or following cold temperatures (3°C or lower) as crop injury may occur.

Tank Mix Combinations with Insecticides:

ORIUS® 430 SC can be tank-mixed with Pyrinex® 480 EC for control of Orange wheat blossom midge (*Sitodiplosis mosellana*) in wheat at labelled rates. Read carefully and follow use directions and use precautions on both the ORIUS® 430 SC and Pyrinex® 480 EC label. When tank mixing ORIUS® 430 SC and Pyrinex® 480 EC, always add ORIUS® 430 SC to the tank first, then add Pyrinex® 480 EC. Do not add any surfactants, such as Agral® 90 or Ag-Surf®.

SOYBEANS:

CROP	**DISEASES**	**DOSAGE OF ORIUS® 430 SC**	**REMARKS**
Soybean	Asian Soybean Rust *(Phakopsora pachyrhizi)* Frogeye Leaf Spot *(Cercospora sojina)*	220-292 mL/ha	Apply ORIUS® 430 SC when first symptoms of disease can be found or when the risk of infection is imminent. Use the higher rate when disease pressure is severe. Always use a registered non-ionic surfactant, such as Agral® 90 or Ag-Surf®, at 0.125% Vol/Vol. ORIUS® 430 SC may be applied by ground or air equipment • GROUND APPLICATION: Apply specified dosage in a minimum of 100 L of water per hectare. • AERIAL APPLICATION: Apply specified dosage in a minimum of 47 L of water per hectare.

Restrictions: A maximum of one application of ORIUS® 430 SC may be applied per crop season. Applications may not be made within 20 days of harvest.

MINOR USES
ASPARAGUS, SRIC POPLAR AND WILLOW:

NOTE TO USER: READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR THE INDICATED SPECIAL USE APPLICATIONS (BELOW): The DIRECTIONS FOR USE for this product for the uses described below were developed by persons other than ADAMA Agricultural Solutions Canada Ltd and accepted for registration by Health Canada under the User Requested Minor Use Label Expansion program. For these uses ADAMA Agricultural Solutions Canada Ltd has not fully assessed performance (efficacy) and/or crop tolerance (phytotoxicity) under all environmental conditions or for all crop varieties when used in accordance with the label. The user should test the product on a small area first, under local conditions and using standard practices, to confirm the product is suitable for widespread application.

ASPARAGUS

CROP	**DISEASES**	**DOSAGE OF ORIUS® 430 SC FOLIAR FUNGICIDE**	**REMARKS**
Asparagus	Rust (*Puccinia asparagi*)	292 mL/ha	1. Apply at the earliest sign of rust pustules or when weather conditions are conducive for rust development. 2. Post-harvest treatment: Apply ORIUS® 430 SC as a foliar spray to the developing ferns after harvest of spears is completed or 3. Newly planted, non-harvested asparagus fields: Apply ORIUS® 430 SC as a foliar spray as soon as ferns are 30 cm high. 4. Apply ORIUS® 430 SC in alternation with another effective fungicide with a different mode of action. 5. Repeat applications on a 14-day interval as necessary to maintain control of rust. Do not apply to harvestable spears. 6. Apply specified rate in a minimum of 200L water/ha. 7. For optimum disease control, always use a registered non-ionic surfactant, such as Agral® 90 or Ag-Surf®, at 0.125% Vol/Vol. 8. Do not apply more than 1.17L of ORIUS® 430 SC per hectare per crop season. A maximum of 4

			applications of ORIUS® 430 SC may be applied per crop season. 9. Pre-harvest Interval: 8 months. 10. Apply by ground only.

SRIC POPLAR AND WILLOW and their planting stock

CROP	**DISEASES**	**DOSAGE OF ORIUS® 430 SC FOLIAR FUNGICIDE**	**REMARKS**
Short Rotation Intensive Culture (SRIC) poplar (*Populus* spp.) and SRIC willow (*Salix* spp.) and their planting stock grown in production facilities (stoolbeds, bareroot beds, seedling beds).	Leaf rust (*Melampsora* spp.*)*	292 mL/ha	A maximum of two (2) applications of ORIUS® 430 SC may be applied per season. **Timing of applications:** **1st application:** **First year trees or shoots:** apply when trees or shoots are 5-10 cm tall and have at least 3-4 expanded leaves; timing depends on the poplar or willow clone and climatic zone. The first application could be as early as late April to late May (B.C. Coast) and as late as mid June to early July (Prairie Region). **Second year or older trees or shoots:** Two (to three) weeks after new foliage has emerged. The first application could be as early as mid to late April (B.C. coast) and as late as mid to late June (Prairie Region), depending on the poplar or willow clone and climatic zone. **2nd application:** apply when the first signs of *Melampsora* spp. leaf rust appear following the 1st application; this could be as early as mid July and as late as mid August in all regions. Trees could be from 1 m to 2 m tall when trees are in their 1st growing season. This second application is made to avoid secondary infections. Use higher water volumes to ensure adequate coverage of foliage. **GROUND APPLICATION (field sprayer and airblast equipment):** Apply specified dosage in a minimum of 100 L of water per hectare. Use higher water volumes to ensure adequate coverage especially for the second application.

			AERIAL APPLICATION: Apply specified dosage in a minimum of 47 L of water per hectare. Check equipment calibration frequently. ORIUS® 430 SC is recommended to be used with the registered non-ionic surfactant, Agral® 90 or Ag-Surf® at 0.125% vol/vol. Do not re-enter treated area for 12 hrs. following application.

Spray Buffer zones for use in Short Rotation Intensive Culture poplar and willow:
Use of the following spray methods or equipment **DO NOT** require a spray buffer zone: handheld or backpack sprayer and spot treatment.

The spray buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, riparian areas and shrublands), sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands).

Method of Application	**Crop**		**Spray Buffer Zones (metres) Required for the Protection of:**		
			Freshwater Habitat of Depths:		**Terrestrial Habitat**
			Less than 1 m	Greater than 1 m	
Field sprayer	Short rotation intensive culture poplar and willow		1	1	1
Airblast	Short rotation intensive culture poplar and willow	Early growth stage	15	1	4
		Late growth stage	5	1	2
Aerial	Short rotation intensive culture poplar and willow	Fixed-wing	55	1	45
		Rotary-wing	30	1	35

When tank mixes are permitted, consult the labels of the tank-mix partners and observe the largest (most restrictive) spray buffer zone of the products involved in the tank mixture and apply using the coarsest spray (ASAE) category indicated on the labels for those tank mix partners.

SECTION 14: MIXING INSTRUCTIONS

- Use 47-100 L/ha of water.
- Use a 50-mesh (or coarser) filter screen.
- Fill the spray tank three-quarters full with water.

- Add the required amount of ORIUS® 430 SC into the sprayer
- Agitate until the fungicide is thoroughly mixed.
- Continue agitation and add the required amount of the tank-mix partner
- Continue agitation while adding the required amount of recommended registered non-ionic surfactant, Agral® 90 or Ag-Surf® at 0.125% v/v
- Complete filling the tank to the desired level with water.
- Upon completion of spraying, thoroughly flush tank, boom, hoses and in-line and nozzle screens with clean water to avoid possible injury to other crops.
- Repeat sprayer cleanout process using an appropriate spray system cleaner

SECTION 15: ROTATIONAL CROPS

Treated areas may be replanted immediately following harvest with any crop listed on this label. For crops not listed on this label, do not plant back within 120 days of last application.

SECTION 16: RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, ORIUS® 430 SC contains a Group 3 fungicide. Any fungal population may contain individuals naturally resistant to ORIUS® 430 SC and other Group 3 fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly in the same fields. Other resistance mechanisms that are not linked to site of action but specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance-management strategies should be followed.

To delay fungicide/bactericide resistance:

- Where possible, rotate the use of ORIUS® 430 SC or other Group 3 fungicides with different groups that control the same pathogens.
- Use tank mixtures with fungicide/bactericides from a different group that is effective on the target pathogen when such use is permitted.
- Fungicide use should be based on an integrated disease management program that includes scouting, historical information related to pesticide use and crop rotation and considers host plant resistance, impact of environmental conditions on disease development, disease thresholds, as well as cultural, biological and other chemical control practices.
- Where possible, make use of predictive disease models to effectively time fungicide applications.
- Monitor treated fungal populations for resistance development. Notify ADAMA Agricultural Solutions Canada Ltd. if reduced sensitivity of the pathogen to ORIUS® 430 SC is suspected. If disease continues to progress after treatment with this product, do not increase the use rate. Discontinue use of this product, and switch to another fungicide with a different site of action, if available.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for specific crops and pathogens.

For further information and to report suspected resistance, contact ADAMA Agricultural Solutions Canada Ltd. at 1-855-264-6262 or at www.adama.com/canada.