CAUTION

KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING

Orius® 430 SC
Fungicide

ACTIVE CONSTITUENT: 430 g/L TEBUCONAZOLE

GROUP 3 FUNGICIDE

For the control of leaf spot and leaf speckle on bananas; rust, leaf spot and net blotch of peanuts; foliar diseases on cereal crops; and other diseases on beans, grapes, lettuce, onions, pawpaw, peas, pyrethrum, ryegrass and fescue seed and sugar cane (var. Q124) crops as specified in the Directions for Use table.

ADAMA ESSENTIALS

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CONTENTS: 5 L, 10 L, 20 L, 110 L

DIRECTIONS FOR USE

CROPS	DISEASE	APPLICATION	RATE	WHP	CRITICAL COMMENTSW
Bananas (Qld, NSW, WA, NT only)	Leaf Spot (Yellow Sigatoka), Leaf Speckle, Black Sigatoka	**Ground application:** Apply by misting machine or airblast sprayer in a convenient volume of water **Aerial application:** Apply at least 20 L of spray mixture per hectare	230 mL/ha Add 3-6 L water miscible oil/ha	1 day	Maintain good deleafing practices to reduce disease inoculum. Very old leaves, and leaves with advanced lesions should be removed, or infected parts of the leaf removed, prior to the application of ORIUS 430 SC. **Tropical areas (eg. North Qld, NT, Ord River):** Apply a regular schedule of protectant sprays. When conditions favour disease, apply a minimum of 2 and a maximum of 3 consecutive ORIUS 430 SC sprays at 14 day intervals. DO NOT apply more than 6 ORIUS 430 SC sprays in any 12 month period. DO NOT apply any ORIUS 430 SC sprays in the months of July, August and September. **Sub-tropical areas (eg. South Qld, NSW):** Commence spraying with ORIUS 430 SC at the onset of warm and humid/wet weather, normally December. Repeat at 21 to 28 day intervals using a minimum of 2 consecutive ORIUS 430 SC sprays. DO NOT apply more than 5 ORIUS 430 SC sprays in any 12 month period. ORIUS 430 SC is approved for use in banana plantations interplanted with avocados.

CROPS	DISEASE	APPLICATION	RATE	WHP	CRITICAL COMMENTSW
Grapevines	Powdery Mildew	-	**Dilute spraying:** 30 mL/100 L **Concentrate spraying:** Refer to 'Special instructions for grapevines' in the Application section	H 8 weeks	Apply thoroughly as part of the following 5 spray program: 1. when shoots 10-20 cm long. 2. pre-flowering. 3. flowering. 4. after fruit set. 5. before bunches close. **This use is subject to an Avcare Fungicide Resistance Management Strategy:** DO NOT apply more than two consecutive sprays of ORIUS 430 SC. DO NOT apply more than three sprays of ORIUS 430 SC per season. DO NOT use ORIUS 430 SC curatively. Apply by dilute or concentrate spraying equipment. Apply the same total amount of product to the target crop whether applying this product by dilute or concentrate spraying methods. DO NOT use in equipment that requires concentrate rates greater than 150 mL/100 L of water (5x). DO NOT apply in volumes less than 250 L/ha. **Add a non-ionic wetting agent at 10 mL/100 L regardless of whether applying by dilute or concentrate spraying.**
Peanuts (South Qld, NSW only)	Early Leaf Spot, Late Leaf Spot, Rust, Net Blotch	**Ground application:** Apply in at least 100 L of water/ha **Aerial application:** Apply at least 30 L of spray mixture per hectare	-	H 3 weeks G 3 weeks	Regularly check high risk areas in the crop for disease (eg. lower leaves, shaded plants). When leaf spot or net blotch or rust can easily be found then either; – spray immediately after the last disease conducive weather (eg. rain or heavy dews) OR – spray before the next disease conducive weather. Repeat after 14 days if conditions remain favourable to disease development. If not, repeat before or just after the next disease conducive weather. For resistance strategy, see General Instructions.
		Low disease	175 mL/ha + Agridex† 1 L/ha		
		High disease OR wet weather	290 mL/ha + Agridex 1 L/ha		
		High disease AND wet weather	440 mL/ha + Agridex 1 L/ha		
Peanuts (North Qld, WA, NT only)	Early Leaf Spot, Late Leaf Spot, Rust	Low disease	230 mL/ha + Agridex 1 L/ha	H 3 weeks G 3 weeks	Begin spraying at 3-4 weeks after planting. If band spraying, apply half the appropriate rate as a 45 cm band directly over the row. Sprays should not be banded after 6 weeks from planting. Repeat applications at 14 day intervals. If prolonged wet weather or heavy rains occur, shorten spray interval to 10-12 days. For resistance strategy, see General Instructions.
		Moderate disease	290 mL/ha + Agridex 1 L/ha		
		Severe disease	440 mL/ha + Agridex 1 L/ha		
	Net Blotch	Low disease	290 mL/ha + Agridex 1 L/ha		Apply at 14 day intervals. If prolonged cool moist weather occurs, shorten spray interval to 10-12 days. For resistance strategy, see General Instructions.
		Moderate disease	440 mL/ha + Agridex 1 L/ha		
Green Beans	Rust	Can be applied by aircraft or ground rig	350 mL/ha + Agridex 1 L/ha	H 3 days G 3 days	Spray when rust infection begins or at budding, whichever is the earlier. Repeat application 10-14 days later. A third application may be necessary when infection occurs early or disease pressure is high.
Lettuce (*Lactuca sativa*)	Sclerotinia Rot (*Sclerotinia sclerotiorum*)	Apply by boomspray	350 mL/ha	5 weeks	Apply by boom spray. Apply only during the early stages of plant development (note the 5 week WHP). Apply a maximum of 2 applications at 7-10 day intervals in rotation with other chemicals registered for this use (i.e procymidone, iprodione and benomyl). Apply only to field crops. DO NOT apply in greenhouse (i.e. protected cropping) situations or hydroponically grown lettuce crops. Control of Sclerotinia in lettuce should not be solely reliant on fungicides. Other control measures such as crop rotations, resistant varieties and planting techniques should be employed.
Peas	Powdery Mildew	**Ground Application:** Apply in at least 50 L of water/ha **Aerial Application:** Apply in at least 10 L of water/ha	145 mL/ha	H 3 days G 3 days	Apply at flowering or at first sign of disease, whichever occurs first. A second spray 14 days later may be necessary under some conditions.

CROPS	DISEASE	APPLICATION	RATE	WHP	CRITICAL COMMENTS
Wheat	Leaf Rust, Stripe Rust, Septoria, Nodorum Blotch, Yellow Leaf Spot	**Ground Application**: Apply in at least 50 L of water/ha	145 or 290 mL/ha	H 5 weeks G 14 days	Use higher rate when longer disease control is required. **Stripe Rust:** See spray timings under General Instructions. **Other diseases:** Apply from full flag leaf emergence to early head emergence. The addition of mineral crop oil (eg. D-C-Trate or equivalent) at 1%, may improve performance of ORIUS 430 SC on wheat, oats and barley.
	Septoria Tritici, Blotch	**Aerial Application:** Apply in at least 10 L of water/ha	290 mL/ha		
Oats	Crown Rust		145 or 290 mL/ha		
Barley	Scald		145 mL/ha		Apply at late tillering to early jointing.
	Powdery Mildew		145 or 290 mL/ha		Apply when 5% of the leaf area is infected. Use higher rate when longer disease control is required.
Wheat, Oats	Stem Rust				Apply if more than 5% of stems become infected between full flag leaf emergence to late flowering. Where Stem Rust is the major disease, yield responses are usually optimised by delaying application until full head emergence, and using the higher rate. In severe cases, if a majority of stems are infected prior to full head emergence, apply at 145 mL/ha as soon as possible and if necessary, repeat after 3 weeks when heads are fully emerged.
Onions (Tas only)	White Root Rot	Before sowing, apply ORIUS 430 SC onto lime super. Ensure good coverage of all lime super particles	1.45 mL/100 m of row mixed with 145-218 g lime super /100 m of row	–	Apply ORIUS 430 SC treated lime super when sowing onion seed. Seed and lime super can either be mixed in the same box on the drill or placed in different boxes and sown down the same tube. Apply in a band width of 2 cm. Ensure that the correct rate of ORIUS 430 SC is used otherwise some delay in emergence and reduced stands of seedlings may occur.
Papaw	Black Spot	Ensure thorough coverage of leaves and fruit	290 mL/ha	3 days	Ensure infected plant material is regularly removed and destroyed to reduce inoculum levels. Spray equipment must be properly calibrated to apply the correct amount of ORIUS 430 SC. Apply ORIUS 430 SC at 14 day intervals. Alternate ORIUS 430 SC with sprays of a protectant fungicide (eg. Dithane DF). DO NOT apply more than 6 sprays of ORIUS 430 SC (or any DMI fungicide) on any block in any 12 month period.
Pyrethrum	*Sclerotinia sclerotiorum*	–	350 mL/ha	–	Apply twice, in rotation with other control measures, at 7-10 day intervals. Commence at 1 to 2% flowering. Use under direction of pyrethrum advisers.
Ryegrass and Fescue Seed Crops	Leaf Rust, Stem Rust	Apply in at least 100 L of water/ha	290 mL/ha		Monitor crops closely and spray at the first signs of disease. Continuing disease pressure or reinfection may require a further application 3-4 weeks later. Ensure thorough coverage, and use higher water volumes in dense or advanced crops.
Sugarcane (variety Q124 only)	Orange Rust	**Ground Application:** Use droppers and directed sprays and sufficient water volume to ensure thorough coverage. **Aerial Application:** Apply in a minimum spray volume of 20 L per hectare.	290 mL/ha plus Agridex 1 L/ha	H4 weeks G4 weeks	Even low levels of Orange Rust suppress yields so it is important to apply ORIUS 430 SC early in the development of the disease epidemic. Begin monitoring disease levels early. Check crops at least weekly when climatic conditions favour the development of disease. Apply as a foliar spray when disease begins to escalate rapidly. Repeat application after 14 days if conditions remain favourable to Orange Rust spore germination. DO NOT apply more than two ORIUS 430 SC sprays per season. DO NOT apply if heavy rains or storms that are likely to cause surface run-off are forecast with greater than 50% probability within 24 hours (48 hours if possible) of application.

NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION.

WITHHOLDING PERIODS:

BANANAS, AVOCADOS: **DO NOT HARVEST FOR 1 DAY AFTER APPLICATION.**
BEANS, PEAS: **DO NOT HARVEST FOR 3 DAYS AFTER APPLICATION.**
BEANS, PEAS: **DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 3 DAYS AFTER APPLICATION.**
CEREALS: **DO NOT HARVEST FOR 5 WEEKS AFTER APPLICATION.**
CEREALS: **DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 14 DAYS AFTER APPLICATION.**
GRAPEVINES: **DO NOT HARVEST FOR 8 WEEKS AFTER APPLICATION.**
LETTUCE: **DO NOT HARVEST FOR 5 WEEKS AFTER APPLICATION.**
ONIONS: **NOT REQUIRED WHEN USED AS DIRECTED.**
PAPAW: **DO NOT HARVEST FOR 3 DAYS AFTER APPLICATION.**
PEANUTS: **DO NOT HARVEST FOR 21 DAYS AFTER APPLICATION.**
PEANUTS: **DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 21 DAYS AFTER APPLICATION.**
SUGAR CANE: **DO NOT HARVEST FOR 4 WEEKS AFTER APPLICATION.**
DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 4 WEEKS AFTER APPLICATION.

H = harvest, G = grazing

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GENERAL INSTRUCTIONS

SPECIAL WARNING – BANANAS

There are certain conditions when the surface of recently emerged fruit is particularly prone to marking damage from spray applications. In circumstances where application will be made to very rapidly growing fruit in hot conditions with strong direct light, it is recommended that all emerged bunches be bagged prior to spraying to minimise risk of fruit marking. **Never include adjuvants** other than water miscible oils with ORIUS 430 SC sprays. The inclusion of wetting agents is known to cause phytotoxicity to young fruit.

FOLIAR DISEASES ON CEREAL CROPS

DO NOT apply to cereal crops more than once in a season.

Treatment will give approximately three weeks disease suppression. Economic responses may not be gained by spraying crops past flowering stage. The effects of fungicide application will not be clearly seen for 7-10 days after application.

Yield potential: crops with potential yield under 2 t/ha are unlikely to give economic responses to a fungicide spray except under conditions of very severe disease. Economic responses are most likely with crops with potential yield of over 3 t/ha.

SPRAY TIMINGS FOR STRIPE RUST CONTROL

Obtain advisory literature from Department of Agriculture for classification of resistant and susceptible varieties. In South Australia consult Plant Protection Note PPN 21. In other states the following spray program is suggested:

Seedling infections: When approximately 20 out of 100 leaves show first signs of infection during tillering to jointing, apply a spray within one week.

Adult infections - susceptible varieties: When approximately 10 out of 100 leaves show first sign of infection, apply a spray within one week. DO NOT delay.

Adult infections - moderately susceptible varieties: When approximately 15 to 20 leaves out of 100 leaves show first sign of infection, apply a spray within one week. DO NOT delay.

Adult infections - moderately resistant and resistant varieties: Monitor carefully. If rust appears and spreads, spray within one week.

FUNGICIDE RESISTANCE WARNING

ORIUS® 430 SC Fungicide is a member of the DMI group of fungicides. For fungicide resistance management the product is a Group 3 fungicide. Some naturally occurring individual fungi resistant to the product and other Group 3 fungicides may exist through normal genetic variability in any fungal population. The resistant individuals can eventually dominate the fungal population if these fungicides are used repeatedly. These resistant fungi will not be controlled by this product and other Group 3 fungicides, thus resulting in a reduction in efficacy and possible yield loss. Since the occurrence of resistant fungi is difficult to detect prior to use, Adama Australia Pty. Ltd. accepts no liability for any losses that result from failure of this product to control resistant fungi.

GROUP **3** FUNGICIDE

RESISTANCE MANAGEMENT RECOMMENDATION – PEANUTS

Apply no more than 3 consecutive sprays of DMI fungicide (eg. ORIUS 430 SC) before switching to a non-DMI fungicide. Apply no more than 5 DMI sprays per season.

MIXING

Prior to pouring, shake container vigorously, then add the required quantity of ORIUS 430 SC to water in the spray vat while stirring or with agitators in motion. Add the required amount of Agridex† (peanuts, beans) or water miscible oil (bananas) and mix thoroughly.

APPLICATION

Aircraft should fly as low as possible under the prevailing conditions to minimise drift.

Special Instructions for Grapevines

Dilute Spraying: Use a sprayer designed to apply high volumes of water up to the point of run-off and matched to the crop being sprayed. Set up and operate the sprayer to achieve even coverage throughout the crop canopy. Apply sufficient water to cover the crop to the point of run-off. Avoid excessive run-off. The required water volume may be determined by applying different test volumes, using different settings on the sprayer, from industry guidelines or expert advice. Add the amount of product specified in the Directions For Use table for each 100 L of water. Spray to the point of run-off. The required dilute spray volume will change and the sprayer set up and operation may also need to be changed, as the crop grows.

Concentrate Spraying: Use a sprayer designed and set up for the concentrate spraying (that is a sprayer which applies water volumes less than those required to reach the point of run-off) and matched to the crop being sprayed. Set up and operate the sprayer to achieve even coverage throughout the crop canopy using your chosen water volume. Determine an appropriate dilute spray volume (See Dilute Spraying above) for the crop canopy. This is needed to calculate the concentrate mixing rate. The mixing rate for concentrate can then be calculated in the following way:

EXAMPLE ONLY

1. Dilute spray volume as determined above: For example 1500 L/ha.
2. Your chosen concentrate spray volume: For example 500 L/ha.
3. The concentration factor in this example is: 3x (ie 1500 L ÷ 500 L = 3).
4. If the dilute label rate is 30 mL/100 L, then the concentrate rate becomes 3 x30, that is 90 mL/100 L of concentrate spraying.

The chosen spray volume, amount of product per 100 L of water, and the sprayer set up and operation may need to be changed as the crop grows.

DO NOT use a concentrate rate higher than that specified in the Critical Comments.

For further information on concentrate spraying, users are advised to consult relevant industry guidelines, undertake appropriate competency training and follow industry Best Practices.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

DO NOT contaminate streams, rivers or waterways with the chemical or used containers. A spraydrift minimisation strategy should be employed at all times when aerially applying sprays. Spray drift may occur under adverse meteorological conditions or from certain spraying equipment. DO NOT allow spray to drift onto sensitive areas including, but not limited to, susceptible plants/crops, cropping land, pasture, natural streams, rivers, wetlands, waterways or human dwellings. The strategy envisaged is exemplified by the cotton industry's Best Management Practices Manual.

STORAGE AND DISPOSAL

Store in the closed, original container in a cool, well-ventilated area. DO NOT store for prolonged periods in direct sunlight. Triple rinse containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or a designated collection point. If not recycling, break, crush or puncture and deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available bury the empty packaging 500 mm below the surface in a in a disposal pit specifically marked and set up for this purpose, clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory government regulations. DO NOT burn empty containers or product.

Envirodrum Micro Matic Valve (110 L): Store the original sealed Envirodrum in a cool well-ventilated area. DO NOT store for prolonged periods in direct sunlight. DO NOT tamper with the Micro Matic valve or the security seal. DO NOT contaminate the Envirodrum with water or any foreign matter. After each use of the product, please ensure that the Micro Matic coupler delivery system and hoses are disconnected, triple rinsed with clean water and drained accordingly. When the contents of the Envirodrum have been used, please return the Envirodrum to the point of purchase. The Envirodrum remains the property of Adama Australia Pty. Ltd.

SAFETY DIRECTIONS

Harmful if swallowed. Will irritate the eyes and skin. Avoid contact with eyes and skin. When opening the container, preparing the spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist and a washable hat and elbow-length PVC gloves. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves and contaminated clothing.

FIRST AID

If poisoning occurs contact a doctor or Poisons Information Centre. Phone Australia 131126.

MATERIAL SAFETY DATA SHEET

Additional information is listed in the material safety data sheet (MSDS). A material safety data sheet for ORIUS 430 SC is available from Adama on request. Call Customer Service on (02) 9431 7800.

CONDITIONS OF SALE: The use of ORIUS 430 SC Fungicide being beyond the control of the manufacturer, no warranty expressed or implied is given by Adama Australia Pty. Ltd. regarding its suitability, fitness or efficiency for any purposes for which it is used by the buyer, whether in accordance with the Directions for Use or not. Adama Australia Pty. Ltd. accepts no responsibility for any consequence whatsoever resulting from the use of this product.

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NOT A DANGEROUS GOOD ACCORDING TO THE AUSTRALIAN DANGEROUS GOODS (ADG) CODE.

ADAMA

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Date of Manufacture

ADAMA