

Container label

GROUP	3	FUNGICIDE
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BUMPER 418 EC

FUNGICIDE

COMMERCIAL

Emulsifiable Concentrate for:
Broad-spectrum disease control in Wheat, Barley, Oats, Canola,
Corn and Soybeans (grown for seed), Dry Edible Beans and for the suppression of
Septoria Leaf Mottle on Canary Seed.

GUARANTEE:

Propiconazole 418 g/L

READ THE LABEL AND ATTACHED BOOKLET BEFORE USING

REGISTRATION NO.: 28017

PEST CONTROL PRODUCTS ACT

WARNING



POISON

WARNING

EYE AND SKIN IRRITANT

POTENTIAL SKIN SENSITIZER

Net Contents: 1-1050 litres

MAKHTESHIM-AGAN OF NORTH AMERICA INC.
4515 Falls of Neuse Road, Suite 300
Raleigh, NC 27609
1 919 256-9300

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. The user assumes the risk to persons or property that arises from any such use of this product.

FIRST AID:

Contains petroleum distillates at greater than 10%.

IF SWALLOWED: Call a poison control centre or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

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.

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.

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

TOXICOLOGICAL INFORMATION:

There is no specific antidote for this product. Apply symptomatic therapy. This product contains PETROLEUM DISTILLATES. Vomiting may cause aspiration pneumonia.

PRECAUTIONS:

KEEP OUT OF THE REACH OF CHILDREN. Do not get in eyes, on skin or on clothing. Avoid breathing spray mist or vapours. Harmful or fatal if swallowed, inhaled or absorbed through the skin. Causes eye and skin irritation. This product may cause skin-sensitization reactions in certain individuals.

Wear neoprene gloves, long-sleeve shirt, socks, chemical resistant footwear and overalls when mixing, handling the product and during equipment cleanup and repairs. Wear protective goggles or faceshield when handling the concentrated product. The wearing of neoprene gloves by pilots when entering the aircraft is essential. Mechanical flagging devices must be used.

Do not eat, drink or smoke during work; wash hands and face thoroughly before doing so. Immediately wash off accidental splashes of the concentrate or spray mixture from skin, clothing and out of eyes.

After work, change clothing and wash entire body thoroughly. Wash contaminated working clothes separately from other laundry before reuse. Do not contaminate food or feed.

NOTE: Do not graze animals on treated green crops within three days of application of BUMPER 418 EC fungicide.

This product contains a petroleum distillate, which is moderately to highly toxic to aquatic organisms. Avoid contamination of aquatic systems during application. Do not contaminate these systems through direct application, disposal of waste or cleaning of equipment.

If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U.S., visit CropLife Canada's web site at: www.croplife.ca

STORAGE: To prevent contamination, store this product away from food or feed.

DISPOSAL:

DISPOSAL OF UNUSED, UNWANTED PRODUCT:

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.

CONTAINER DISPOSAL:

For recyclable containers:

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:

- Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
- 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.

For refillable containers: For disposal, this container may be returned to the point of purchase (distributor/dealer). It must be refilled by the distributor/dealer with the same product. Do not reuse this container for any other purpose.

IN CASE OF EMERGENCY INVOLVING A MAJOR SPILL, FIRE OR POISONING CALL 1-800-535-5053.

ENVIRONMENTAL HAZARDS:

TOXIC to aquatic organisms. To reduce runoff from treated areas into aquatic habitats, consider the characteristics and conditions of the site before treatment. Site characteristics and conditions that may lead to runoff include, but are not limited to: heavy rainfall, moderate to steep slope, bare soil, poorly draining soil (e.g., soils that are compacted or fine textured such as clay). Avoid application of this product when heavy rain is in the forecast. Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative strip between the treated area and the edge of the water body.

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Do not eat, drink or smoke during work; wash hands and face thoroughly before doing so. Immediately wash off accidental splashes of the concentrate or spray mixture from skin, clothing and out of eyes.

After work, change clothing and wash entire body thoroughly. Wash contaminated working clothes separately from other laundry before reuse. Do not contaminate food or feed.

NOTE: Do not graze animals on treated green crops within three days of application of BUMPER 418 EC fungicide.

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ENVIRONMENTAL HAZARDS:

TOXIC to aquatic organisms. To reduce runoff from treated areas into aquatic habitats, consider the characteristics and conditions of the site before treatment. Site characteristics and conditions that may lead to runoff include, but are not limited to: heavy rainfall, moderate to steep slope, bare soil, poorly draining soil (e.g., soils that are compacted or fine textured such as clay). Avoid application of this product when heavy rain is in the forecast. Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative strip between the treated area and the edge of the water body.

DIRECTIONS FOR USE:

DO NOT apply this product directly to freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs, ditches and wetlands), estuaries or marine habitats.

DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

GENERAL INFORMATION:

Introduction: BUMPER 418 EC is a broad-spectrum systemic fungicide for control of a wide range of diseases on certain crops. BUMPER 418 EC fungicide will protect the crop from yield and quality losses due to disease. BUMPER 418 EC may be used in conjunction with higher seeding rates, higher fertilizer inputs, plant growth regulators and other fungicides as required. (See "NOTE" under PRECAUTIONS)

Crop Information: BUMPER 418 EC may be applied to:

- Winter Wheat
- Spring Wheat (including Hard Red, Durum, Canada Prairie, Soft White)
- Spring Barley
- Oats
- Canola
- Corn (including Field, Seed and Sweet)
- Soybeans (grown for seed)
- Canary Seed
- Dry Edible Beans (including kidney, navy and white bean)

Diseases Controlled:

Winter Wheat and Spring Wheat (including Hard Red, Durum, Canada Prairie, Soft White)	Septoria Leaf Spot; Septoria Glume Blotch; Powdery Mildew; Leaf and Stem Rust; Tan Spot; Stripe Rust
Spring Barley	Net Blotch; Spot Blotch; Scald; Powdery Mildew; Septoria Leaf Spot; Leaf Rust; Stem Rust
Oats	Septoria Leaf Blotch; Crown Rust
Canola	Blackleg
Corn	Rusts, Northern Corn Leaf Blight, Southern Corn Leaf Blight, Helminthosporium Leaf Spot, Eye Spot, Grey Leaf Spot
Soybeans (grown for seed)	Frogeye Leaf Spot (<i>Cercospora spp.</i>), Aerial Web Blight (<i>Rhizoctonia solani</i>)
Canary Seed	Septoria Leaf Mottle
Dry Edible Beans (including kidney, navy and white beans)	Rust

Factors Affecting BUMPER 418 EC Performance: BUMPER 418 EC should be applied as a preventative disease control measure. Established diseases are more difficult to control and may have already reduced crop vigour.

If rainfall occurs within one hour of application, reapplication is necessary.

AERIAL APPLICATION:

DO NOT apply when wind speed is greater than 16 km/h at flying height at the site of application. High humidity and low temperatures (10 – 20°C) allow for a better deposition of spray droplets.

SPRAYER AND APPLICATION INFORMATION:

The performance of this product depends on correct application. Follow the guidelines given below for optimal application of BUMPER 418 EC.

Sprayer Information:

	GROUND APPLICATION	AERIAL APPLICATION
Spray Volume	Minimum 200 L of water per hectare	40 - 50 L of water per hectare
Spray Pressure	200 - 300 kPa	100 - 200 kPa
Nozzle Type	110° Flat Fan (XR11004, 4110-20)	Flat Fan 6510-6515 or Hollow Cone (D8-45)
Droplet Size	Medium Spray (300 - 400 microns VMD)	Medium Spray (350 - 400 microns VMD)
Ground Speed	10 km/h	
Nozzle Angle	90° (straight down)	90° (straight down)

	GROUND APPLICATION	AERIAL APPLICATION
Boom Height	40-50 cm above the crop canopy	2-3 m above the crop canopy

Ground Application:

Mixing and Spraying Instructions:

- Spray equipment should be thoroughly flushed with clean water before mixing BUMPER 418 EC.
- Fill spray tank 1/2 full with clean water. Engage gentle agitation.
- Add the required amount of BUMPER 418 EC and agitate thoroughly.
- Continue filling the tank with water until the tank is 9/10 full and, if applicable, add the required amount of tank mix partner.
- Complete filling the spray tank with water, maintaining agitation during mixing and spraying operations.
- Use nozzle screens no finer than 50 mesh. Keep by-pass line on or near the bottom of the tank to minimize foaming.

Aerial Application:

Mixing and Spraying Instructions:

- Spray equipment should be thoroughly flushed with clean water before mixing BUMPER 418 EC.
- Fill premix tank 1/2 full with clean water. Engage gentle agitation.
- Add the required amount of BUMPER 418 EC and agitate thoroughly.
- Continue filling the tank with water until the tank is 9/10 full and, if applicable, add the required amount of tank mix partner.
- Complete filling the premix tank with water.
- Maintain gentle agitation during mixing.
- Transfer the premix contents into the aircraft spray tank.
- Maintain sufficient agitation during the mixing and spraying operation to ensure BUMPER 418 EC remains in suspension.

- Use nozzle screens no finer than 50 mesh. Keep by-pass line on or near the bottom of the tank to minimize foaming.

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 a 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.

AERIAL APPLICATION 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.

Do not apply to any body of water. Avoid drifting of spray onto any body of water or other non-target areas. Coarse sprays are less likely to drift; therefore, avoid combinations of pressure and nozzle type that will result in fine particles (mist). DO NOT apply during periods of dead calm. Avoid application of this product when winds are gusty.

AERIAL APPLICATION 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 chemical resistant gloves, coveralls and goggles or face shield during mixing/loading, cleanup and repair. 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 1-212-661-9800 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:

Apply the recommended rate in a minimum spray volume of 40 litres per hectare.

Fertilizer:**Mixing and Spraying Instructions:**

If desired, small amounts of nitrogen may be applied with BUMPER 418 EC. The appropriate amount of urea can be dissolved in water and added to the spray tank before adding BUMPER 418 EC. The rate of actual nitrogen must not exceed 10 kg/ha.

CAUTION: Excessive nitrogen concentrations may injure the crop.

NOTE: DO NOT add nitrogen when tank-mixing BUMPER 418 EC with an herbicide.

**WHEAT, BARLEY AND OATS SPRAY SCHEDULE
INSTRUCTIONS FOR USE:**

Apply BUMPER 418 EC at the very early stages of disease. This could occur anytime during tillering or stem elongation. Typically, an application from the beginning of stem elongation up to flag leaf emergence is required.

BUMPER 418 EC lasts about three weeks in the plant. If conditions favourable to disease continue after this length of time, another application will be necessary to maintain control. The second spray is usually applied at the time of head emergence. In most cases, this second application is essential to maintain control of the Septoria disease complex.

CROP/DISEASE	RATE/HA	EARLY APPLICATION	LATER APPLICATION	MAXIMUM NUMBER OF APPLICATIONS PER SEASON
WHEAT Septoria Leaf Spot and Tan Spot SPRING BARLEY * Net Blotch	150-300 mL	At Growth Stage (G.S). 12-23 (as early as the two leaf stage). For early season disease suppression, use the lower rate for suppression under normal field conditions. Use the higher rate for control if there is a history of high disease pressures in the field and/or field conditions favour disease development.	At the first sign of disease (G.S. 29-37) or before head is half emerged (G.S. 49-55). Apply only the high rate on any application from G.S. 29-55.	2
WHEAT Septoria Leaf Spot and Glume Blotch, Powdery Mildew, Leaf and Stem Rust, Tan Spot, Stripe Rust SPRING BARLEY Net Blotch, Spot Blotch, Scald, Powdery Mildew Septoria Leaf Spot, Leaf and Stem Rust OATS Septoria Leaf Blotch, Crown Rust	300 mL	At the first sign of disease, usually at the beginning of stem elongation (G.S. 29-37)	Before head is half emerged (G.S. 49-55)	
LAST APPLICATION MUST BE MADE AT LEAST 45 DAYS BEFORE HARVEST.				

HERBICIDE TANK-MIXING - WHEAT & BARLEY:

BUMPER 418 EC can be tank-mixed with ONLY ONE of these herbicides:

2,4-D Amine	Estemine 2,4-D®
MCPA Amine	Estemine MCPA®
Badge Emulsifiable Selective Weedkiller	Bromotril 240 EC
HORIZON 240 EC	

Tank-mixing Precautions:

- Do not tank-mix BUMPER 418 EC with herbicides for application onto Oats.
- Weeds and crops must be at the correct stage of growth as specified in both the BUMPER 418 EC label and the tank mix partner label.
- 2,4-D and MCPA formulations may be applied either by ground application or aerial application; tank-mixtures of BUMPER 418 EC and Badge Emulsifiable Selective Weedkiller or Bromotril 240 EC can only be applied by ground application.
- Consult the label of the herbicide partner for a list of weeds controlled, directions for use and precautions.
- Compatibility should always be confirmed by premixing small proportional quantities of water, BUMPER 418 EC, and the tank-mix partner in advance.

NOTE: Do not graze animals on treated green crops within three days of application of BUMPER 418 EC. Do not feed straw from crops treated with herbicide tank mixes to livestock.

HERBICIDE TANK-MIXING – WHEAT

FOR USE ONLY IN THE PRAIRIE AND PEACE RIVER, OKANAGAN AND CRESTON FLATS REGIONS OF BRITISH COLUMBIA.

BUMPER 418 EC can be tank-mixed with HORIZON 240 EC Herbicide for disease and grassy weed control.

Tank-mixing Precautions:

- Do not apply by air.
- Consult the label of HORIZON 240 EC Herbicide for a list of weeds controlled, directions for use and precautions.
- Apply prior to emergence of the 4th tiller (herbicide timing).

CANOLA SPRAY SCHEDULE

INSTRUCTIONS FOR USE:

BUMPER 418 EC will control blackleg and enhance yield potential during the early stages of canola growth. The disease may reappear later in the season, but with minimal effect on yield.

DISEASE	RATE/HA	REMARKS/TIMING
Blackleg	300 mL	Apply during the rosette stage; between 2 nd true leaf and bolting.
		Seedling Rosette Bud (Bolted) Stage 1 Stage 2 Stage 3
LAST APPLICATION MUST BE MADE AT LEAST 60 DAYS BEFORE HARVEST.		

TANK-MIXING – SEED CORN, FIELD CORN and SWEET CORN

BUMPER 418 EC can be tank-mixed with the following partner:

Silencer 120 EC Insecticide

Tank-mixing Precautions:

- The tank mix of BUMPER 418 EC + Silencer 120 EC Insecticide can be applied by air and ground. Use 40 L of water per hectare when applying by air.
- Insects and crops must be at the correct stage as specified on the BUMPER 418 EC as well as the Silencer 120 EC label. Follow the directions for use and precautions on all labels.
- A Pre harvest interval (PHI) of 14 days must be respected when using these tank-mixes on field and sweet corn.
- Compatibility should always be confirmed by premixing small proportional quantities of water, BUMPER 418 EC, and the tank-mix partner in advance.

SEED CORN, FIELD CORN AND SWEET CORN SPRAY SCHEDULE

DISEASE	RATE/HA BUMPER 418 EC Fungicide alone	RATE/HA Tank Mix partner	REMARKS
Rusts	300 mL	+ 83 mL Silencer 120 EC	Apply 300 mL of BUMPER 418 EC per hectare when rust pustules first appear. Under severe disease pressure, make a second application 14 days after. Seed corn only , under severe disease pressure, make a third application 14 days after.
Northern Corn Leaf Blight Southern Corn Leaf Blight Helminthosporium Leaf Spot	150-300 mL	+ 83 mL Silencer 120 EC	Apply 150 - 300 mL of BUMPER 418 EC per hectare when disease first appears. Use the 150 mL rate if disease pressure is low.
Eye Spot Grey Leaf Spot	300 mL	+ 83 mL Silencer 120 EC	Apply 300 mL of BUMPER 418 EC per hectare when disease first appears.

SOYBEANS GROWN FOR SEED SPRAY SCHEDULE

DISEASE	RATE/HA	REMARKS
Frogeye Leaf Spot (<i>Cercospora spp.</i>) Aerial Web Blight (<i>Rhizoctonia solani</i>)	300-455 mL	Apply 300 - 455 mL of BUMPER 418 EC per hectare, using ground application equipment only, when disease first appears. Under severe disease pressure, make a second application 14 days after the first application.
Do not harvest soybeans within 50 days of the last application. Harvested soybean seed should not be used for human food or animal feed. For use only on soybeans grown for seed.		

CANARY SEED SPRAY SCHEDULE

DISEASE	RATE/HA	REMARKS
Septoria leaf mottle	300 mL	For the suppression of Septoria leaf mottle; make one application at emergence of flag leaf; ground application only; apply in 200 L water/ha.

DRY EDIBLE BEANS SPRAY SCHEDULE

DISEASE	RATE/HA	REMARKS
Rust	300 mL	Apply 300 mL of BUMPER 418 EC in minimum of 200 L of water per hectare by ground application or in 40 to 50 L of water per hectare by aerial application at the first detection of disease in the field and a second application 14 to 21 days later.
APPLY A MAXIMUM OF 2 APPLICATIONS PER SEASON OF BUMPER 418 EC TO DRY EDIBLE BEANS. DO NOT APPLY WITHIN 28 DAYS OF HARVEST.		

RESISTANCE MANAGEMENT RECOMMENDATIONS:

For resistance management, BUMPER 418 EC contains a Group 3 fungicide. Any fungal population may contain individuals naturally resistant to BUMPER 418 EC 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 resistance:

- Where possible, rotate the use of BUMPER 418 EC or other Group 3 fungicides with different groups that control the same pathogens.
- Avoid application of more than the maximum number listed in the label and consecutive sprays of BUMPER 418 EC or other fungicides in the same group in a season.
- Fungicide use should be based on an Integrated Pest Management program that includes scouting, historical information related to pesticide use and crop rotation and considers cultural, biological and other chemical control practices.
- Monitor treated fungal populations for sign of resistance development.

- 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 target 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 disease problems in your area.
- For further information or to report suspected resistance, contact Makhteshim-Agan of North America Ltd. at 1-212-661-9800.

HORIZON, Estemine 2,4-D, & Estemine MCPA are registered trademarks of a Syngenta group company.

Ripcord is a registered trademark of BASF