

GROUP

3

FUNGICIDE



Bayer CropScience

**NET CONTENTS:
2, 5.1, 10 and 101 LITRES and BULK**

PROLINE[®] 480 SC Foliar Fungicide

**For Control or Suppression of Listed Diseases in Chickpeas, Lentils, Canola, Rapeseed,
Oriental Mustard, Wheat & Barley**

AGRICULTURAL

SYMBOL – Triple Rinse

CAUTION – POISON

REGISTRATION NUMBER: **28359**
PEST CONTROL PRODUCTS ACT

GUARANTEE:
Prothioconazole 480 g/L

Contains 1,2-benzisothiazolin-3-one at 0.04% and 5-chloro-2-methyl-4-isothiazolin-3-one at 0.001% and 2-methyl-4-isothiazolin-3-one at 0.0004% as preservatives.

**READ THE LABEL BEFORE USING
KEEP OUT OF REACH OF CHILDREN**

**Bayer CropScience Inc.
Suite 100, 3131-114th Avenue SE
Calgary, AB
T2Z 3X2**

For product information, call: 1-888-283-6847

**In case of spills, poisoning or fire, telephone emergency response number: 1-800-334-7577
(24 hours a day).**

PROLINE 480 SC Foliar Fungicide

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For more information, contact:

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GENERAL INFORMATION

Section 1: The Product

PROLINE 480 SC Foliar Fungicide is a broad-spectrum systemic fungicide for the control or suppression of listed *Ascomycetes*, *Basidiomycetes* and *Deuteromycetes* diseases on chickpeas, lentils, canola, rapeseed Oriental mustard, wheat and barley.

SAFETY AND HANDLING

Section 2: Precautions, Protective Clothing & Equipment, and Re-entry Restriction.

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. Wash thoroughly with soap and water after handling and before eating, drinking, or smoking. If product comes in contact with clothing, remove all contaminated clothing, wash skin with soap and water and dress in clean clothing. Launder applicator clothing separate from other laundry. DO NOT re-enter treated fields until 24 hours post-application. 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 website at www.croplife.ca.

PROTECTIVE CLOTHING AND EQUIPMENT:

- During mixing, loading, clean-up and repair activities, workers must wear long pants, long-sleeved shirts, boots, chemical resistant gloves and safety goggles or a face shield.

Section 3: First Aid and Toxicological Information

FIRST AID:

If swallowed: Have patient drink 1 or 2 glasses of water. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person. Call a physician or contact a poison control centre.

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

If on skin: Wash with plenty of soap and water. Remove contaminated clothing. –

If inhaled: In case of inhalation, remove patient from the site of exposure. Give supportive care. Seek medical attention immediately if toxicity or irritation persists.

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

TOXICOLOGICAL INFORMATION:

- Treat symptomatically.
- Medical Personnel should contact Bayer's Medical Information Services, Toll-Free: 1-800-334-7577.

Section 4: ENVIRONMENTAL HAZARDS

TOXIC to aquatic organisms. Observe buffer zones specified under DIRECTIONS FOR USE.

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 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.

Section 5: STORAGE

Storage:

- Do not contaminate water, food, or feed by storage or disposal.
- Keep away from fire or open flame or other sources of heat.
- Do not store at temperatures below freezing.
- If stored for 1 year or longer, shake well before using.
- Store the tightly closed container away from feeds, seeds, fertilizer, plants and foodstuffs.
- Do not use or store in or around the home.
- Keep in original container during storage.
- In case of fire, leaking or damaged containers, call toll free 1-800-334-7577.

Section 6: DISPOSAL

Recyclable Container 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.

Returnable Container:

Do not reuse this container for any purpose. For disposal, this empty container may be returned to the point of purchase (distributor/dealer).

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 cleanup of spills.

Disposal of Unused Spray Solution:

If any spray solution remains in the tank after spraying is finished, it should be sprayed on the perimeter of the area just sprayed, NOT ON THE CROP, away from water supplies, ditches, and irrigation canals. Buffer zones indicated in the DIRECTIONS FOR USE must also be respected.

DIRECTIONS FOR USE

Section 7: Crop, Disease, Rate, Timing

CEREALS (Barley and Wheat)			
CROP	DISEASE	RATE	TIMING
Barley	For suppression of Fusarium Head Blight (<i>Fusarium spp.</i>), or Scab	Apply PROLINE 480 SC Foliar Fungicide once, at 315 to 420 mL/ha (150-200 g a.i./ha) Adjuvant: Apply with a non-ionic surfactant, AgSurf or Agral 90 at 0.125% v/v	Fusarium head blight outbreaks in barley occur when the weather is warm and wet at ear emergence. The application of PROLINE 480 SC Foliar Fungicide for protection against Fusarium head blight (scab) should be considered when these environmental conditions are forecasted for this stage of barley development. Timing of application is critical: For optimum suppression of Fusarium head blight, apply PROLINE 480 SC Foliar Fungicide as a preventative spray within the time period when 70 to 100% of the barley main stem heads are fully emerged, to 3 days after full head emergence. Application of the 420 mL/ha rate is suggested in situations where disease pressure is expected to be high. Such situations may occur when prolonged periods of warm wet weather are forecast during barley ear emergence, when barley is grown in a crop rotation that has contained corn or when susceptible cultivars are grown. Use of the 420 mL/ha rate will typically provide highest levels of mycotoxin reduction. Spray Coverage is essential for optimum efficacy: Spray equipment must be set up to provide good coverage to barley heads. To achieve thorough barley head coverage using ground application equipment, it is recommended to use forward and backward mounted nozzles or nozzles that have a two-directional spray. Nozzles should be operated within the spray pressure recommendations suggested by the manufacturer.
	For control of: Net Blotch (<i>Pyrenophora teres</i>); Scald (<i>Rhynchosporium secalis</i>) Spot Blotch (<i>Cochliobolus sativus</i>)	Apply PROLINE 480 SC Foliar Fungicide once, at 210 to 315 mL/ha (100 -150 g a.i./ha) Adjuvant: Apply with a non-ionic surfactant, AgSurf or Agral 90 at 0.125% v/v	Apply PROLINE 480 SC Foliar Fungicide as a preventive foliar spray when the earliest disease symptoms appear on the leaves and stems. Barley fields should be observed closely for early disease symptoms, particularly when susceptible varieties are planted and/or under prolonged conditions favorable for disease development.
Note: A maximum of 2 applications (735 mL/ha) of PROLINE 480 SC Foliar Fungicide, with a minimum 7 day application interval, may be applied per barley crop, per year. Do not apply within 30 days of harvest. Applications may be made by ground spray equipment only.			
CROP	DISEASE	RATE	TIMING

<p>Wheat (spring, durum and winter)</p>	<p>For suppression of Fusarium Head Blight (<i>Fusarium</i> spp.), or Scab</p> <p>For control of Glume blotch (<i>Stagonosora nodorum</i>)</p>	<p>Apply PROLINE 480 SC Foliar Fungicide once, at 315 to 420 mL/ha (150-200 g a.i./ha)</p> <p>Adjuvant: Apply with a non-ionic surfactant, AgSurf or Agral 90 at 0.125% v/v</p>	<p>Fusarium head blight outbreaks in wheat occur when the weather is warm and wet at head emergence and flowering. The application of PROLINE 480 SC Foliar Fungicide for protection against Fusarium head blight (scab) should be considered when these environmental conditions are forecasted for this stage of wheat development.</p> <p>Timing of application is critical: For optimum suppression of Fusarium head blight or control of Glume blotch, apply PROLINE 480 SC Foliar Fungicide 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.</p> <p>Application of the 420 mL/ha rate is suggested in situations where disease pressure is expected to be high. Such situations may occur when prolonged periods of warm, wet weather are forecast during anthesis, when wheat is grown in a crop rotation that has contained corn or when more susceptible cultivars or wheat types (i.e. durum) are grown.</p> <p>Use of the 420 mL/ha rate will typically provide highest levels of mycotoxin reduction.</p> <p>Spray Coverage is essential for optimum efficacy: Spray equipment must be set up to provide good coverage to wheat heads. To achieve thorough wheat head coverage using ground application equipment, it is recommended to use forward and backward mounted nozzles or nozzles that have a two-directional spray. Nozzles should be operated within the spray pressure recommendations suggested by the manufacturer.</p>
	<p>For control of :</p> <p>Speckled Leaf Blotch (<i>Septoria tritici</i>) ;</p> <p>Tan spot (<i>Pyrenophora tritici-repentis</i>) ;</p> <p>Leaf Rust (<i>Puccinia recondata</i>)</p>	<p>Apply PROLINE 480 SC Foliar Fungicide at 315 mL/ha (150 g a.i./ha)</p> <p>Adjuvant: Apply with a non-ionic surfactant, AgSurf or Agral 90 at 0.125% v/v</p>	<p>Apply PROLINE 480 SC Foliar Fungicide as a preventive foliar spray when the earliest disease symptoms appear on the leaves and stems. Wheat fields should be observed closely for early disease symptoms, particularly when susceptible varieties are planted and/or under prolonged conditions favorable for disease development.</p>
<p>Note: A maximum of 2 applications (735 mL/ha) of PROLINE 480 SC Foliar Fungicide, with a minimum 7 day application interval, may be applied per wheat crop per year. Do not apply within 30 days of harvest. Applications may be made by ground equipment only.</p>			

OILSEED CROPS (Canola, Rapeseed, Oriental Mustard)			
CROP	DISEASE	RATE	TIMING
Canola, Rapeseed, Oriental mustard	For control of Sclerotinia stem rot (<i>Sclerotinia sclerotiorum</i>)	Apply PROLINE 480 SC Foliar Fungicide at 315 – 368 mL/ha (150-175 g a.i./ha)	Apply PROLINE 480 SC Foliar Fungicide when the canola crop is in the 20 - 50% bloom stage. Best protection will be achieved when the fungicide is applied prior to petals beginning to fall, and will allow for the maximum number of petals to be protected. The 315 mL/ha rate is the recommended rate for most canola crops, however, the higher rate is recommended for fields with a history of heavy disease pressure or for dense crop stands. Good spray coverage of the plants is essential.
<p>Note: The lowest labelled rate of a non-ionic surfactant, AgSurf or Agral 90, may be tank-mixed with PROLINE 480 SC Foliar Fungicide. The application may be made by ground or aerial spray equipment. A maximum of one application (368 mL/ha of PROLINE 480 SC Foliar Fungicide) may be applied per crop year. Do not apply within 36 days of harvest.</p>			

PULSE CROPS (Chickpeas, Lentils)			
CROPS	DISEASE	RATE	TIMING
Chickpeas	For control of Ascochyta blight (<i>Ascochyta rabiei</i>)	<p>Apply PROLINE 480 SC Foliar Fungicide at 315 – 420 mL/ha (150-200 g a.i./ha)</p> <p>After the initial application, repeat applications may be made on 10-14 day intervals. Apply the higher rate when conditions favour disease development, or when growing less disease resistant varieties.</p>	<p>Apply PROLINE 480 SC Foliar Fungicide at the first sign of disease.</p> <p>A maximum of 1260 mL/ha of PROLINE 480 SC Foliar Fungicide may be applied per crop year for chickpeas.</p> <p>Maximum of three applications per year.</p>
Lentils	For control of Ascochyta blight (<i>Ascochyta spp.</i>)	<p>Apply PROLINE 480 SC Foliar Fungicide at 315 – 420 mL/ha (150-200 g a.i./ha)</p> <p>After the initial application, one additional application may be made 10-14 days afterwards if conditions remain favourable for continued or increased disease development. Apply the higher rate when conditions favour disease development, or when growing less disease resistant varieties.</p>	<p>Apply PROLINE 480 SC Foliar Fungicide at the first sign of disease.</p> <p>A maximum of 840 mL/ha of PROLINE 480 SC Foliar Fungicide may be applied per crop year for lentils.</p> <p>Maximum of two applications per year.</p>
<p>Note: The lowest labelled rate of a non-ionic surfactant, AgSurf or Agral 90, may be tank-mixed with PROLINE 480 SC Foliar Fungicide. Applications may be made by ground spray equipment only. Do not apply within 7 days of cutting or swathing of the crop.</p>			

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.

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) medium classification.

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) medium classification. **DO NOT** allow nozzle spacing to exceed 65% of boom length.

Buffer zones:

The buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of sensitive aquatic habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs, wetlands and estuarine/marine habitats).

Method of Application	Crop	Buffer Zones (metres) Required for the Protection of Aquatic Habitat of Depths:		
		Less than 1 m	1 -3 m	Greater than 3 m
Field sprayer	all listed crops	2	1	0
Aerial (fixed and rotary wing)	canola	10	0	0

Rotation restrictions:

Treated areas may be replanted with any crop specified on this label as soon as practical after the last application. For crops not listed on this label, do not plant back within 30 days of last application.

Section 8: Resistance Management

Resistance Management:

For resistance management, please note that **PROLINE 480 SC Foliar Fungicide** contains a Group 3 fungicide. Any fungal population may contain individuals naturally resistant to PROLINE 480 SC Foliar Fungicide 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:

- Alternate with fungicides having a different mode of action other than Group 3 every 7 to 10 days after each application of **PROLINE 480 SC Foliar Fungicide**.
- Do not apply more than the indicated maximum number of applications per year specified for each crop in the DIRECTIONS FOR USE, Section 7 table.
- Fungicide use should be based on an integrated pest management (IPM) program that includes scouting, historical information related to pesticide use and crop rotation and considers cultural, biological, and other chemical control practices.
- Monitor efficacy of all fungicides used in the disease management program against the target pathogen and record other factors that may influence fungicide performance and/or disease development.
- 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 a Bayer CropScience representative at 1-888-283-6847 or at bayercropscience.ca.

Section 9: Application Precautions

GROUND APPLICATION:

1. Use well-maintained and calibrated conventional spray equipment, which provides adequate and uniform coverage.
2. Apply PROLINE 480 SC Foliar Fungicide in a minimum of 100 L water/ha.
3. Spray screens should be no finer than 50 mesh.
4. Ensure that the by-pass line discharges at the bottom of the tank to minimize foaming.
5. Maintain pressure at no less than 275 kPa to ensure good foliage penetration and coverage.
6. Provincial buffer zones that are greater than the buffer zones indicated in the DIRECTIONS FOR USE, Section 7, should be respected.
7. If spray mixture remains in the tank overnight, or for long periods during the day, agitate thoroughly prior to application.

AERIAL APPLICATION-GENERAL INFORMATION:

1. 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.
2. 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. If you have questions,

- call 1-888-283-6847 or obtain technical advice from the distributor or your provincial agricultural representative.
3. Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices.
 4. Apply PROLINE 480 SC Foliar Fungicide in a minimum of 50 L of water/ha.
 5. To ensure proper coverage and distribution and to minimize drift, check to see that swath width and droplet size are adequate, and that wind velocities are low.
 6. Use mechanical flaggers only.

AERIAL APPLICATION-USE PRECAUTIONS:

1. Apply only when meteorological conditions at the treatment site allow for complete and even crop coverage.
2. Apply only under conditions of good practice specific to aerial application as outlined in the *Basic Knowledge Requirements for Pesticide Education in Canada: Applicator Core and Aerial Module*, developed by CAPCO.
3. Do not apply to any body of water. Avoid drifting of spray onto any body of water or other non-target areas. Specified buffer zones should be observed.

AERIAL APPLICATION- OPERATOR PRECAUTIONS:

1. **DO NOT** allow the pilot to mix chemicals to be loaded onto the aircraft. Loading of premixed chemicals with a closed system is permitted.
2. It is desirable that the pilot has communication capabilities at each treatment site at the time of application.
3. 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.
4. All personnel on the job site must wash hands and face thoroughly before eating and drinking.
5. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.
6. Read and understand the entire label before opening this product. If you have questions, call the manufacturer at 1-888-283-6847 or obtain technical advice from the distributor or your provincial agricultural representative.

Section 10: Mixing Instructions

Mixing Instructions:

PROLINE 480 SC Foliar Fungicide must be applied with properly calibrated, clean equipment. Prior to adding PROLINE 480 SC Foliar Fungicide to the spray tank, ensure that the spray tank is thoroughly clean.

PROLINE 480 SC Foliar Fungicide applied alone:

- Add one-half of the required amount of water to the spray or mixing tank and start agitation.

- Add the required quantity of **PROLINE 480 SC Foliar Fungicide** to the water and complete filling with water to the required total volume.
- Maintain agitation throughout mixing and spraying.
- PROLINE 480 SC Foliar Fungicide should be thoroughly dispersed prior to the addition of a non-ionic surfactant. PROLINE 480 SC Foliar Fungicide is recommended to be used with a registered non-ionic surfactant, such as Agral 90 or AgSurf, at 0.125% vol/vol.

Section 11: Pre-harvest Intervals

<u>Crop</u>	<u>PHI</u>
Barley	30
Canola, Rapeseed, Oriental Mustard	36
Chickpea	7
Lentils	7
Wheat (spring, durum and winter)	30

Section 12: Notices

NOTICE TO USER:

This 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.

For more information contact:

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