



GROUP	<b>7, 3</b>	FUNGICIDE
-------	-------------	-----------

**PROPULSE™ FUNGICIDE**

For control of listed diseases in dry beans and certain small berries.

COMMERCIAL

SUSPENSION

REGISTRATION NUMBER: 30511 PEST CONTROL PRODUCTS ACT

ACTIVE INGREDIENT:

Fluopyram	200 g/L
Prothioconazole	200 g/L

Contains 1,2-benzisothiazolin-3-one at 0.035% and 5-chloro-2-methyl-4-isothiazolin-3-one at 0.0009% and 2-methyl-4-isothiazolin-3-one at 0.0003% as preservatives.

READ THE LABEL AND BROCHURE BEFORE USING

KEEP OUT OF REACH OF CHILDREN

NET CONTENTS: 1 – 200 L

Bayer CropScience Inc.  
Suite 200, 160 Quarry Park Blvd. SE  
Calgary, AB T2C 3G3

**For product information, call 1-888-283-6847.**

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

PROPULSE FUNGICIDE

Table of Contents:

Section Number:

GENERAL INFORMATION	Notice	1
	The Product	2
SAFETY AND HANDLING	Precautions	3
	First Aid and Toxicological Information	4
	Environmental Precautions	5
	Storage	6
	Disposal	7
DIRECTIONS FOR USE	Application Information and Precautions	8
	Crop, Disease, Rate, Timing	9
	Rotational Crop Restrictions	10
	Mixing Instructions	11
	Resistance Management Recommendations	12

FOR MORE INFORMATION CONTACT:

Bayer CropScience Inc.  
Suite 200, 160 Quarry Park Blvd. SE  
Calgary, AB T2C 3G3

## GENERAL INFORMATION

### SECTION 1: NOTICE

#### 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.

### SECTION 2: THE PRODUCT

PROPULSE FUNGICIDE is a broad spectrum fungicide with preventative, systemic, and curative properties recommended for the control of certain crop diseases. PROPULSE FUNGICIDE is best suited for use in a preventative treatment program.

## SAFETY AND HANDLING

### SECTION 3: PRECAUTIONS

#### PRECAUTIONS:

KEEP OUT OF REACH OF CHILDREN. Avoid contact with the skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. 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.

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

#### PROTECTIVE CLOTHING AND EQUIPMENT:

Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing, loading, application, clean-up and repair. Gloves are not required during application within a closed cab.

#### RE-ENTRY RESTRICTION (REI):

DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 3 days to perform hand-line irrigation in bushberries. For all other postapplication activities, DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.

If this pest control product is to be used on a commodity that may be exported and you require information regarding Maximum Residue Limits for an importing country, please contact Bayer CropScience Canada Inc. at 1-888-283-6847 or [www.cropscience.bayer.ca](http://www.cropscience.bayer.ca).

#### SECTION 4: FIRST AID AND TOXICOLOGICAL INFORMATION

##### FIRST AID:

If swallowed: Call a poison control centre or doctor immediately for treatment advice. Have 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 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. 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 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 5: ENVIRONMENTAL PRECAUTIONS

TOXIC to birds. TOXIC to aquatic organisms and non-target terrestrial plants. Observe buffer zones specified under DIRECTIONS FOR USE. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the high water mark. Do not contaminate water when disposing of equipment washwaters. This product may contaminate water through runoff. This product has a potential for runoff several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from rainfall-runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's contribution to surface water contamination.

Residues of this product demonstrate the properties and characteristics associated with chemicals detected in groundwater. The use of this product in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

## SECTION 6: STORAGE

Do not contaminate water, food, or feed by storage or disposal. Do not store 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 the product in the original container during storage. In case of fire, leaking or damaged containers, call toll free 1-800-334-7577.

## SECTION 7: 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.

### 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, away from water supplies, ditches, and irrigation canals.

## SECTION 8: APPLICATION INFORMATION AND PRECAUTIONS

### DIRECTIONS FOR USE

#### APPLICATION INFORMATION:

Thorough coverage of all plant parts to be protected is essential for good disease control. Use sufficient water volume and spray pressure to provide thorough and uniform coverage for optimum disease control.

DO NOT apply by air.

Apply in a minimum spray volume of 100 L water/ha.

## APPLICATION PRECAUTIONS:

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 ASAE medium classification.

When applied as a tank-mix combination, read and observe all label directions, including rates, restrictions, and grazing limitations for each product used in the tank-mix. Follow the more stringent label precautionary measures for mixing, loading and applying stated on both labels.

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.

### Chemigation 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. Applications **MUST** be conducted **WITHOUT** the use of end guns.

Do not apply this product through any other type of irrigation system.

Do not apply when wind speed causes non-uniform distribution and/or favours drift beyond the area intended for treatment.

Apply this product only through drip irrigation systems, and only to crops where specified under Section 9 of this label. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact provincial extension service specialists, equipment manufacturers or other experts. A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. This product has not been sufficiently tested when applied through irrigation systems to assure consistent product performance for all labeled uses. The following application techniques are provided for user reference but do not constitute a warranty of fitness for application through drip irrigation equipment. Users must check with provincial and local regulatory agencies for potential use restrictions before applying any agricultural chemical through sprinkler or drip irrigation equipment.

Do not connect an irrigation system used for pesticide application to a public water system, unless the pesticide label prescribed safety devices for public water systems are in place.

'Public water system' means a system for the provision to the public of piped water for human

consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone (RPZ), back flow preventer, or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an alternative to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. Pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The systems must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops or, in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Spray mixture in the chemical supply tank must be agitated at all times, otherwise settling and uneven application may occur. Apply pesticide continuously for the duration of the water application. For mixing instructions, please refer to directions in Section 11 of this label.

This product may be used through drip irrigation on crops where specified under Section 9 of this label. The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow. With stationary systems, an effectively designed in-line Venturi applicator unit is preferred to support even and quick distribution. However, a positive-displacement pump can also be used. Mix desired amount of this product for area to be covered with water so that the total mixture of this product plus water in the injection tank is equal to the quantity of water used during calibration. Provide chemical supply tank agitation sufficient for mixing until chemigation is completed. Operate entire system at normal pressures recommended by the manufacturer of injection equipment used, for amount of time established during calibration. This product can be injected during the irrigation cycle or as a separate application. For drip irrigation systems, introduce fungicide into irrigation solution for a period sufficient to distribute the product uniformly in the crop. Fungicide should be added near the end of the normal irrigation cycle so that subsequent watering will not flush the product from the root zone. Stop injection equipment with any system after treatment is completed and continue to operate irrigation system until this product has been cleared from the last drip irrigation line. See crops section on the label for recommended treatment rates and additional use information.

When applied as a tank-mix combination, read and observe all label directions, including rates, restrictions, and grazing limitations for each product used in the tank-mix. Follow the more stringent label precautionary measures for mixing, loading and applying stated on both labels.

**Buffer zones:**

Spot treatments using hand-held equipment DO NOT require a buffer zone.

The 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), and sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands).

Method of application	Crop		Buffer Zones (metres) Required for the Protection of:		
			Freshwater Habitat of Depths:		Terrestrial Habitat:
			Less than 1 m	Greater than 1 m	
Field sprayer	All listed crops		1	1	1
Airblast	Bushberries	Early growth stage	15	5	1
		Late growth stage	5	3	1

For tank mixes, consult the labels of the tank-mix partners and observe the largest (most restrictive) 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 buffer zones for this product can be modified based on weather conditions and spray equipment configuration by accessing the Buffer Zone Calculator on the Pest Management Regulatory Agency web site.



SECTION 9: CROP, DISEASE, RATE, TIMING

**DRY BEANS:**

Bean (*Lupinus* spp., includes grain lupin, sweet lupin, white lupin, and white sweet lupin), Bean (*Phaseolus* spp., includes field bean, kidney bean, lima bean, navy bean, pinto bean, tepary bean), Bean (*Vigna* spp., includes adzuki bean, blackeyed pea, catjang, Crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean), Broad Bean (dry), Lablab Bean.

Including plant parts that will be used as animal feed.

Disease Control	Rate (mL/ha)	Use Information
White mold ( <i>Sclerotinia sclerotiorum</i> )	750	<p>Begin fungicide applications preventatively.</p> <p>When disease pressure is high or when agronomic or weather conditions are conducive to disease development, continue applications as needed on a 7- to 14-day interval.</p> <p>Use shorter intervals for best protection.</p> <p>Ensure that the area to be treated is covered uniformly. Good spray coverage and canopy penetration are important for best results.</p>
<p>Ascochyta blight (<i>Ascochyta</i> spp.)</p> <p>Anthracnose (<i>Colletotrichum lindemuthianum</i>) (on dry bean only)</p> <p>Asian Soybean Rust (<i>Phakopsora pachyrhizi</i>)</p>	500 - 750	<p>Begin fungicide applications preventatively.</p> <p>When disease pressure is high or when agronomic or weather conditions are conducive to disease development, continue applications as needed, on a 10 – 14-day interval.</p> <p>Use the higher rate when conditions for heavy infestation exist.</p> <p>Use the higher rate when growing less resistant cultivars.</p> <p>Ensure that the area to be treated is covered uniformly. Good spray coverage and canopy penetration are important for best results.</p>

**Restrictions:** Do not apply more than 1.5 L of PROPULSE FUNGICIDE per hectare per season. Do not apply within 14 days of harvest of seed. Do not allow livestock to graze treated areas and do not harvest for forage and hay for 7 days after application. To limit the potential for development of disease resistance to this fungicide, do not make more than 2 sequential applications of PROPULSE FUNGICIDE or any Group 7 or Group 3 containing fungicide before rotating with a fungicide from a different Group.

**Bushberries**  
**(CROP SUBGROUP 13-07B)**

Aronia berry; blueberry, highbush; blueberry, lowbush; buffalo currant; Chilean guava; currant, black; currant, red; elderberry; European barberry; gooseberry; highbush cranberry; honeysuckle, edible; huckleberry; jostaberry; Juneberry (Saskatoon berry); lingonberry; native currant; salal; sea buckthorn; cultivars, varieties, and/or hybrids of these.

Disease Control	Rate (mL/ha)	Use Information
Suppression of Septoria leaf Spot ( <i>Septoria</i> spp.)	750	Apply PROPULSE FUNGICIDE at the first sign of disease. After the initial application, one additional application may be made 10-14 days afterwards if conditions remain favourable for continued or increased disease development.
Suppression of Leaf rust ( <i>Thekopsora minima</i> ) and Valdensinia leaf spot ( <i>Valdensinia heterodoxa</i> ) - blueberry only	1000	
Control of Monilinia blight ( <i>Monilinia vaccinii-corymbosi</i> )	750	Begin applications when 40 percent of the blossom buds have the bud scales separated. A second application of PROPULSE FUNGICIDE or another approved fungicide should be applied 7 to 10 days later.

**Restrictions:** Apply up to two (2) applications of PROPULSE FUNGICIDE per year. Repeat applications as needed using the recommended spray interval if conditions remain favorable for continued or increasing disease development. Applications may be made by ground spray equipment only.

A maximum of 2000 mL/ha of PROPULSE FUNGICIDE may be applied per crop year.

To limit the potential for development of disease resistance to these fungicide classes do not make more than 2 sequential applications of PROPULSE FUNGICIDE or any Group 7 or Group 3 containing fungicide before rotating with a fungicide from a different Group.

**Pre-harvest Interval (PHI):** Do not apply within 7 days of harvest.

**Low Growing Berries, Except Strawberries  
(CROP SUBGROUP 13-07H)**

Bearberry; bilberry; lowbush blueberry, cloudberry; cranberry; lingonberry, muntries, partridgeberry; cultivars, varieties, and/or hybrids of these

Disease Control	Rate	Use Information
Fruit rot:  <i>Coleophoma empetri</i> , <i>Glomerella cingulata</i> , <i>Phyllosticta vaccinii</i> , <i>Physalospora vaccinii</i> <i>Allantophomopsis lycopodina</i> , <i>Allantophomopsis cytispora</i> , <i>Fusicoccum putrefaciens</i> , <i>Penicillium spp.</i> , <i>Phomopsis vaccinii</i> , <i>Colletotrichum acutatum</i> , <i>Colletotrichum coccodes</i>	875 mL/ha	Begin applications at early bloom for fruit rot. Make a second application of PROPULSE FUNGICIDE or another approved fungicide 7-14 days later.  Apply specified dosage in the following methods:  1. Foliar spray application  2. Soil application: Chemigation into the root-zone through low- pressure drip, trickle, micro-sprinkler or equivalent equipment.

**Restrictions:** Apply up to two (2) applications of PROPULSE FUNGICIDE per year regardless of method of application (soil or foliar). Repeat applications as needed using a 7- to 14-day spray interval if conditions remain favorable for continued or increasing disease development. Applications may be made by ground spray equipment only.

A maximum of 1750 mL/ha of PROPULSE FUNGICIDE may be applied per crop year.

To limit the potential for development of disease resistance to these fungicide classes do not make more than 2 sequential applications of PROPULSE FUNGICIDE or any Group 7 or Group 3 containing fungicide before rotating with a fungicide from a different Group.

**Pre-harvest Intervals (PHIs):**

Do not apply within 45 days of harvest of bearberry; bilberry; cloudberry; cranberry; muntries, partridgeberry.

Do not apply within 7 days of harvest of blueberry and lingonberry.

#### SECTION 10: ROTATIONAL CROP RESTRICTIONS:

Do not replant to alfalfa for 14 days after application. Crops listed on this label and chickpeas, guar, lentils, cereals, corn, soybeans, peanuts, cucurbit vegetables, oilseeds, tuberous and corm vegetables and sugarbeets may be rotated anytime following the last application of PROPULSE FUNGICIDE. All other crops may be replanted 30 days following the last application of PROPULSE FUNGICIDE.

#### SECTION 11: MIXING INSTRUCTIONS

PROPULSE FUNGICIDE must be applied with properly calibrated, clean equipment. Prior to adding PROPULSE FUNGICIDE to the spray tank, ensure that the spray tank is thoroughly clean:

- Add one-half of the required amount of water to the spray or mixing tank and start agitation.
- Add the required quantity of PROPULSE FUNGICIDE to the water and complete filling with water to the required total volume.
- Maintain agitation throughout mixing and spraying.

#### SECTION 12: RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, PROPULSE FUNGICIDE contains a Group 7 and a Group 3 fungicide. Any fungal population may contain individuals naturally resistant to PROPULSE FUNGICIDE and other Group 7 and Group 3 fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly in the same field. 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 PROPULSE FUNGICIDE or other Group 7 and Group 3 fungicides with different groups that control the same pathogens.
- Use tank mixtures with fungicides from a different group that is effective on the target pathogen when such use is permitted.
- The total number of sprays containing Group 7 fungicides in a mixture should not exceed half of the total number of fungicide applications in a season.
- 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 Bayer if reduced sensitivity of the pathogen to PROPULSE FUNGICIDE 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 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 and to report suspected resistance, contact a Bayer representative at 1-888-283-6847 or at [www.cropscience.bayer.ca](http://www.cropscience.bayer.ca).

PROPULSE™ is a trademark of Bayer.

190521