



GROUP	4, 11, 22	FUNGICIDE
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## **INTEGO<sup>®</sup> Pulse Fungicide**

**SUSPENSION**

**COMMERCIAL**

A fungicide seed treatment product providing systemic fungicide control or suppression of labeled seed and seedling diseases.

### **ACTIVE INGREDIENT:**

Ethaboxam.....	24.9 g/L
Mandestrobin.....	33.2 g/L
Metalaxyl.....	13.3 g/L

Contains 1,2-benzisothiazolin-3-one at 0.046% or 5-chloro-2-methyl-4-isothiazolin-3-one at 0.0017% and 2-methyl-4-isothiazolin-3-one at 0.0006% as preservatives

REGISTRATION NUMBER 34011 PEST CONTROL PRODUCTS ACT

**READ THE LABEL AND THIS BOOKLET BEFORE USING  
KEEP OUT OF REACH OF CHILDREN**

**CAUTION – EYE IRRITANT**

NET CONTENTS:

This product contains red colourant for application to Crop Group 6 – Legume Vegetables, according to regulations pertaining to the “Seeds Act”.

HEALTH EMERGENCY OR SPILL (24 hr):

(800) 682-5368

TRANSPORTATION (24 hr.): CHEMTREC

(800) 424-9300 or (202) 483-7616

GROWER INFORMATION:

Valent Canada, Inc.

201-230 Hanlon Creek Blvd., Guelph, Ontario, N1C 0A1

Contact Phone Number: (519) 767-9262

**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.

## **PRECAUTIONS:**

### **KEEP OUT OF REACH OF CHILDREN.**

May irritate eyes. Avoid contact with eyes. Wash hands thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

### **Seed Treatment Workers:**

Do not apply in a way that this product will contact workers or other persons, either directly or through drift. Only workers wearing personal protective equipment may be in the area where treating, bagging, sewing and/or stacking is occurring.

A closed cab tractor is required when planting treated seed.

Commercial seed treatment (facilities and mobile treaters):

Seed treatment facilities must use closed transfer equipment only, including closed mixing, loading, calibrating, and treatment equipment. No open transfer of *INTEGO* Pulse Fungicide is permitted in commercial seed treatment facilities.

Wear coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes or boots during mixing, loading, treating, and during bagging, sewing, stacking or other activities not involving direct contact with treated seed. In addition, wear chemical-resistant coveralls during cleaning, maintenance and repair of seed treatment equipment.

On-Farm Seed Treatment:

Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes or boots during mixing, loading, treatment, transfer of treated seeds, planting, and during clean-up and repair of seed treatment equipment. A closed cab tractor is required when planting treated seed. Chemical-resistant gloves are not required when inside closed-cab planting equipment.

Follow manufacturer's instructions for cleaning/maintaining personal protective equipment (PPE). If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

## **User Safety Recommendations:**

User should:

- 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.
- Remove PPE immediately after handling this product.

- Wash the outside of gloves before removing.
- As soon as possible, wash thoroughly and change into clean clothing.
- Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

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., contact Valent Canada, Inc.

#### **ENVIRONMENTAL PRECAUTIONS:**

**TOXIC** to aquatic organisms.

**TOXIC** to birds and small wild mammals. Any spilled or exposed seeds must be incorporated into the soil or otherwise cleaned-up from the soil surface.

#### **FIRST AID:**

**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 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 ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 - 20 minutes. Call a poison control center 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:**

No specific antidote is available. Treat the patient symptomatically.

#### **STORAGE:**

Store this product away from food or feed. Keep pesticide in its original container. Store in a cool place. Do not store in direct sunlight. Protect from freezing temperatures.

**DISPOSAL:** 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.

### **RECYCLABLE CONTAINER:**

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.

### **USE RESTRICTIONS:**

- Do not use treated seed for food, feed, or oil processing.
- Due to seed quality conditions beyond the control of Valent Canada, Inc., no claims are made to guarantee germination of carry-over seed.

### **LABELLING OF TREATED SEED:**

All containers or packages containing treated seed for sale or use in Canada must be labeled or tagged as follows:

- This seed was treated with a product containing the active ingredients ethaboxam, mandestrobin, and metalaxyl.
- Do not use treated seed for feed, food or oil processing.
- Store away from feeds and other foodstuffs.
- Wear long-sleeved shirt, long pants and chemical-resistant gloves, socks and shoes when handling and planting treated seeds, and during clean-up, maintenance, and repair of seed treatment equipment. A closed cab tractor is required when planting treated seed. Chemical-resistant gloves are not required when inside closed-cab planting equipment.
- Dispose of all excess treated seed. Left over treated seed may be double-sown around the headland or buried away from water sources in accordance with local requirements.
- Dispose of seed packaging in accordance with local requirements.
- Toxic to birds and small wild mammals. Any spilled or exposed seeds must be incorporated into the soil or otherwise cleaned-up from the soil surface.

### **APPLICATION INSTRUCTIONS:**

*INTEGO* Pulse Fungicide must be used only in accordance with use instructions on this label utilizing mechanical, slurry or mist-type seed treating equipment, provided that the equipment can be calibrated to accurately and uniformly apply the product to seed. This product is for both commercial and on-farm application. Do not apply this product in a hopper-box or planter-box at planting time. Always mix product thoroughly before use.

Calibrate seed treatment equipment prior to application of *INTEGO* Pulse Fungicide to assure proper application rate is achieved. Consult with the seed treatment equipment manufacturer for guidance on the operation and proper calibration of the treating equipment, as non-uniform, inaccurate seed coverage may result in suboptimal disease protection.

## **MODE OF ACTION**

*INTEGO* Pulse Fungicide contains the active ingredients ethaboxam, mandestrobin, and metalaxyl. Ethaboxam is a Group 22 fungicide as classified by the Fungicide Resistance Action Committee (FRAC); it's mode of action is the inhibition of cell division. Mandestrobin belongs to the strobilurin or Quinone Outside Inhibitors (QoI) class (Group 11) of fungicides as classified by the FRAC. Metalaxyl is a member of the acylalanine chemical group (FRAC Code 4) and interrupts fungal nucleic acid synthesis.

## **SEED QUALITY AND STORAGE OF TREATED SEED:**

Seed treatments applied to low vigor or poor quality seed or to mechanically damaged seed may result in loss of seed germination or reduced seedling vigor. To verify seed safety, treat a small portion of seed with the desired slurry mixture (*INTEGO* Pulse Fungicide alone or in combination with other commercial seed treatment products) prior to treatment of an entire seed lot. Utilize standard seed germination methodologies to determine and verify seed safety. Use proper storage conditions for treated seed. Due to seed quality and seed storage conditions beyond the control of Valent Canada, Inc., no claims are made to guarantee the germination of carry-over treated seed.

## **GENERAL INFORMATION:**

*INTEGO* Pulse Fungicide is a systemic fungicide seed protection product for use on a wide range of crops. The active ingredient, mandestrobin, provides protection against *Rhizoctonia solani*, *Fusarium* spp. and *Phomopsis longicolla* causing seed rot, seedling dieback and seedling root rot. The active ingredients ethaboxam and metalaxyl provide protection against the Oomycete class of water moulds and controls seed rot/ pre-emergence damping-off caused by *Pythium* spp. and suppresses early season root rot caused by *Phytophthora sojae* and *Aphanomyces euteiches*. Fungicide combinations applied to seed offer a wider spectrum of activity against seed and seedling diseases impacting plant stand establishment and seedling health.

## **DIRECTIONS FOR USE:**

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

Accurate application of *INTEGO* Pulse Fungicide to seed is required for best performance. Thoroughly mix *INTEGO* Pulse Fungicide in the desired seed slurry mixture, prior to application to seed. Pre-test tank mixtures with other seed treatment products to evaluate formulation compatibility and to ensure proper physical compatibility of products. Follow the most restrictive limitations or cautions on labels of all products used in a seed treatment mixture. Do not tank mix with any products which contain a prohibition on tank mixing. In some cases, tank mixing a pest control product with another pest control product or a fertilizer can result in biological effects that could include, but are not limited to: reduced pest efficacy or increased host crop injury. When tank-mixes are permitted, read and observe all label directions, including rates and restrictions for each product used in the tank-mix. Follow the more stringent label precautionary measures for mixing, loading and applying stated on both product labels. The user should contact Valent Canada, Inc. at (519) 767-9262 for information before mixing any pesticide or fertilizer that is not specifically recommended on this label.

The following tables provide use rates of *INTEGO* Pulse Fungicide by labeled crop, with disease protection guidelines.

<b>Crop Group 6: Legume Vegetables (Succulent or Dried)</b>	
<p>Bean (<i>Lupinus</i>) (includes grain lupin, sweet lupin, white lupin, and white sweet lupin); bean (<i>Phaseolus</i>) (includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean); bean (<i>Vigna</i>) (includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean); broad bean (<i>Fava</i>); chickpea (garbanzo); guar; jackbean; lablab bean; lentil; pea (<i>Pisum</i>) (includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea); pigeon pea; soybean; soybean (immature seed); sword bean</p>	
<p><u>Control of:</u> Seed rots, seedling blight and seedling root rot caused by <i>Rhizoctonia solani</i> and <i>Fusarium</i> spp.</p> <p>Seed rot/pre-emergence damping-off caused by <i>Pythium</i> spp.</p> <p><u>Suppression of:</u> Seed rots, seedling blight and seedling root rot caused by <i>Phomopsis longicolla</i></p> <p>Early season root rot caused by <i>Phytophthora sojae</i></p> <p>Early season root rot caused by <i>Aphanomyces euteiches</i></p>	<p>300 mL/100 kg seed (Ethaboxam – 7.5 g a.i./100 kg seed) (Mandestrobin - 10 g a.i./100 kg seed) (Metalaxyl – 4 g a.i./100 kg seed)</p>
<p><i>INTEGO</i> Pulse Fungicide may be tank mixed with a labelled rate of other seed treatment fungicides with a different mode of action, such as Zeltera Fungicide. <i>INTEGO</i> Pulse Fungicide may also be tank mixed with an insecticide seed treatment for control of insect pests. Follow the most conservative use precautions of all tank mix partners.</p>	

**RESISTANCE MANAGEMENT RECOMMENDATIONS:**

For resistance management, please note that *INTEGO* Pulse Fungicide contains Group 4, 11, and 22 fungicides. Any fungal population may contain individuals naturally resistant to *INTEGO* Pulse Fungicide and other Group 4, 11, and 22 fungicides. A gradual or total loss of pest control may occur over time if this fungicide is 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 *INTEGO* Pulse Fungicide with different chemical 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.
- 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.
- Monitor treated fungal populations for resistance development. Notify Valent Canada, Inc. if reduced sensitivity of the pathogen to *INTEGO* Pulse Fungicide is suspected.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.

For further information or to report suspected resistance contact Valent Canada, Inc. at 1-800-682-5368.

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**COMMERCIAL**

A seed treatment product

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