

# Specimen Label

METALAXYL	GROUP	4	FUNGICIDE
INPYRFLUXAM	GROUP	7	FUNGICIDE
ETHABOXAM	GROUP	22	FUNGICIDE



## Lumiscend™ Pro

FUNGICIDE SEED TREATMENT

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### A SEED TREATMENT PRODUCT PROVIDING SYSTEMIC FUNGICIDE PROTECTION AGAINST LISTED SEED AND EARLY SEEDLING DISEASES OF CORN

Active Ingredient	By Wt
Ethaboxam <sup>1</sup> .....	5.42%
Inpyrfluxam <sup>2</sup> .....	3.61%
Metalaxyl <sup>3</sup> .....	2.89%
Other Ingredients.....	88.08%
Total	100.00%

<sup>1</sup> (RS)-N-[cyano(2-thienyl)methyl]-4-ethyl-2-(ethylamino)thiazole-5-carboxamide

<sup>2</sup> 3-(difluoromethyl)-N-[(R)-2,3-dihydro-1,1,3-trimethyl-1H-inden-4-yl]-1-methyl-1H-pyrazole-4-carboxamide

<sup>3</sup> methyl N-(2,6-dimethylphenyl)-N-(methoxyacetyl)-DL-alaninate

Lumiscend™ Pro contains 0.480 lb ethaboxam, 0.319 lb inpyrfluxam, and 0.256 lb metalaxyl per gallon.

### PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS & DOMESTIC ANIMALS

EPA Reg No. 59639-247-352

### KEEP OUT OF REACH OF CHILDREN CAUTION

Harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

**Workers loading product, treating seed and conducting maintenance and calibration of the treater must wear:** long-sleeved shirt, long pants, socks and shoes, and chemical-resistant gloves made of any waterproof material (barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinyl chloride (PVC) ≥ 14 mils, or Viton ≥ 14 mils).

**Workers involved with handling treated seed (such as baggers, sewers and bag stackers) must wear:** long-sleeved shirt, long pants, socks and shoes.

#### Workers who load and plant treated seed must wear:

long-sleeved shirt, long pants, socks, shoes and chemical-resistant gloves made of any waterproof material when handling treated seed.

Follow the 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.

#### USER SAFETY RECOMMENDATIONS

Users should:

- Remove clothing/PPE 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.

### ENVIRONMENTAL HAZARDS

This pesticide is toxic to aquatic invertebrates, oysters, and shrimp. Do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high-water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water by disposing of equipment washwaters or rinsate.

### Groundwater Advisory

Metalaxyl has properties and characteristics associated with chemicals detected in ground water. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow. Therefore, contain any product spills or equipment leaks and dispose of wastes according to the disposal instructions on this label.

### Surface Water Advisory

This product may impact surface water quality due to runoff of rainwater. This is especially true for poorly draining soils and soils with shallow groundwater. This product is classified as having high potential for reaching surface water via runoff for several months or more after application. 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 loading of metalaxyl from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

### READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation.

Maximum usage when applying both metalaxyl- and mefenoxam-containing products to the same crop within the same season. Do not apply more than the maximum yearly total application rate for the active ingredient as stated on the label of the product containing the lowest yearly total on that crop.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about Personal Protective Equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard (WPS).

Do not enter or allow worker entry into treated areas during the Restricted Entry Interval (REI) of 48 hours.

**Exception:** Once the seeds are planted in soil, the WPS, under certain circumstances, allows workers to enter the treated area without restriction if there will be no worker contact with the soil subsurface or treated seed. PPE required for early entry to treated areas that is permitted under the WPS and that involves contact with anything that has been treated, such as plants, soil, or water, is: Coveralls, socks and shoes, and chemical-resistant gloves made of any waterproof material.

### RESTRICTIONS

- Lumiscend™ Pro 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 apply the product accurately and uniformly to seed.
- Always mix product thoroughly before use.
- This product is for commercial and on-farm applications.
- DO NOT** apply this product in a hopper-box or planter-box at planting time.
- As stated by regulations specified in 40 CFR 153.155, all seed treated with Lumiscend Pro must be colored with an EPA-approved dye or colorant to visually distinguish seed is treated with a pesticide. This regulation is necessary to prevent treated seed from accidental use as a food for man or feed for animals.
- DO NOT** use treated seed for feed, food, or oil purposes.
- Store treated seed away from feeds and foodstuffs.

- Seed commercially treated with this product must be labeled in accordance with all applicable requirements of the Federal Seed Act.
- Treated seeds exposed on soil surface may be hazardous to wildlife. Cover or collect treated seeds spilled during loading and planting.
- **DO NOT** allow children, pets, or livestock to have access to treated seed.
- Dispose of excess treated seeds by burying them away from bodies of water.
- The maximum annual application rate for metalaxyl or mefenoxam must not exceed 12.3 lbs ai/A per calendar year or the lesser value listed in the crop use section.

**PRODUCT INFORMATION**

Lumiscend Pro (containing ethaboxam, metalaxyl, and inpyrfluxam) is a fungicide seed treatment product offering both contact and systemic activity in providing broad-spectrum seed and seedling protection against seedling diseases. The fungicide components in Lumiscend Pro are effective for protection against soilborne *Rhizoctonia solani*, *Fusarium* spp., *Pythium* spp.

**MODE OF ACTION**

Lumiscend Pro contains metalaxyl which belongs to the phenylamide class of chemistry which interferes with fungal RNA synthesis. Inpyrfluxam is a succinate dehydrogenase inhibitor (SDHI) and belongs to the carboxamide class of chemistry which disrupts cellular respiration and energy generation. Ethaboxam belongs to the thiazole carboxamide class of chemistry which inhibits cell division.

**RESISTANCE MANAGEMENT**

For resistance management, please note that Lumiscend Pro contains Group 4/metalaxyl, Group 7/inpyrfluxam, and Group 22/ethaboxam fungicides. Any fungal population may contain individuals naturally resistant to Lumiscend Pro and other Group 4, Group 7, or Group 22 fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly in the same fields. Appropriate resistance-management strategies are to be followed.

To delay fungicide resistance, take one or more of the following steps:

- Rotate the use of Lumiscend Pro or other Group 4, Group 7, or Group 22 fungicides within a growing season sequence with different groups that control the same pathogens.
- Use tank mixtures with fungicides from a different group that are equally effective on the target pest when such use is permitted. Use at least the minimum application rate as labeled by the manufacturer.
- Adopt an integrated disease management program for fungicide use that includes scouting, uses historical information related to pesticide use, and crop rotation, and which 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 plan fungicide applications. Note that using predictive models alone is not enough to manage resistance.
- Monitor treated fungal populations for resistance development.
- Contact your local extension specialist or certified crop advisor for any additional pesticide resistance-management and/or IPM recommendations for specific crop and pathogens.

For further information or to report suspected resistance contact Corteva Agriscience at 1-800-992-5994. You can also contact your pesticide distributor or university extension specialist to report resistance.

**APPLICATION DIRECTIONS**

Accurate application of Lumiscend Pro to seed is required for best performance. Thoroughly mix Lumiscend Pro 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. Do not tank mix with any products which contain a prohibition on tank mixing.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

**SEED QUALITY AND STORAGE OF TREATED SEED**

Lumiscend Pro. Use proper storage conditions for treated seed. Due to seed quality and seed storage conditions beyond the control of Corteva Agriscience LLC, no claims are made to guarantee the germination of carry-over treated seed.

**SEED BAG TAG REQUIREMENTS**

The Federal Seed Act requires that bags containing treated seed be labeled or tagged with the following information:

- This seed has been treated with Lumiscend Pro containing ethaboxam, metalaxyl, and inpyrfluxam.
- **DO NOT** use for feed, food or oil processing.

The U.S. Environmental Protection Agency requires the following statements on the container of seed treated with Lumiscend Pro:

- This corn seed has been treated with 0.0033 lb ai ethaboxam, 0.0023 lb ai inpyrfluxam and 0.0018 lb ai metalaxyl per 80,000 seeds.
- The maximum yearly total application rate for corn is 0.011 lb ai/A for metalaxyl, 0.0117 lb ai/A for ethaboxam, and 0.044 lb ai/A for inpyrfluxam (including seed treatment and in-furrow applications).
- Store away from feeds and other foodstuffs.
- **DO NOT** allow children, pets, or livestock to have access to treated seed.
- Wear long sleeved shirt, long pants, shoes and socks, and chemical resistant gloves made of any waterproof material when opening this bag or handling (e.g., loading, pouring) treated seed.
- Treated seeds exposed on soil surface may be hazardous to wildlife. Plant treated seed into the soil to the recommended minimum depth or greater to minimize exposure.
- **DO NOT** plant treated seed by broadcasting to the soil surface. Ensure that all planted seeds are thoroughly incorporated by the planter during planting; additional incorporation may be required to thoroughly cover exposed seeds.
- Cover or collect treated seeds spilled during loading and planting, in particular at row ends and field corners.
- Dispose of all excess treated seed by burying seed away from bodies of water.
- **DO NOT** contaminate water bodies when disposing of planting equipment wash waters.
- Dispose of seed packaging in accordance with local requirements.
- Excess treated seed may be used for ethanol production only if (1) by-products are not used for livestock feed and (2) no measurable residues of pesticide remain in ethanol by-products that are used in agronomic practices.
- **Groundwater Advisory:** Metalaxyl is known to leach through soil into groundwater under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

The following table provides use rates of Lumiscend Pro by labeled crop, with disease protection guidelines.

CORN (field, sweet and popcorn)	
Diseases	Application Rate of Lumiscend Pro
Seed rot, seedling blight, and damping-off caused by soilborne <i>Rhizoctonia solani</i> , <i>Fusarium</i> spp., and <i>Pythium</i> spp. including metalaxyl resistant <i>Pythium</i> spp.	<p><b>0.042 mg active ingredient per seed<sup>1</sup></b>  <b>or</b>  <b>0.9 fl oz/80,000 seeds</b></p> <p><sup>1</sup>The following active ingredient components will be applied (mg ai per seed)<sup>1</sup> will be applied:  ethaboxam: 0.019  inpyrfluxam: 0.013  metalaxyl: 0.010</p> <p>Based on assumption of 1800 seeds/lb, the following will be applied (lbs ai/ 100 lbs seed):  ethaboxam: 0.0075  inpyrfluxam: 0.005  metalaxyl: 0.004</p>
<b>Restrictions:</b>	
<ul style="list-style-type: none"> <li>• The maximum yearly application rate for metalaxyl on corn is 0.011 lb ai/A.</li> <li>• The maximum yearly application rate for ethaboxam on corn is 0.0117 lb ai/A.</li> <li>• The maximum yearly total application rate for inpyrfluxam on corn is 0.044 lb ai/A, including in-furrow and seed treatment applications.</li> </ul>	

**STORAGE AND DISPOSAL**

Do not contaminate water, food or feed by storage or disposal.

**STORAGE**

Store in a dry place away from excessive heat. Do not store near food or feed. Store in original container only.

**PESTICIDE DISPOSAL**

To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

## STORAGE AND DISPOSAL (Cont.)

### CONTAINER HANDLING

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available; otherwise dispose of in a sanitary landfill or other procedures allowed by State and local authorities.

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Offer for recycling, if available; otherwise dispose of in a sanitary landfill or other procedures allowed by State and local authorities.

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Offer for recycling, if available; otherwise dispose of in a sanitary landfill or other procedures allowed by State and local authorities.

### RECYCLING

Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact the Ag Container Recycling Council (ACRC) at 877-952-2272 (toll free) or [www.acrecycle.org](http://www.acrecycle.org).

### RISKS OF USING THIS PRODUCT, LIMITED WARRANTY AND DISCLAIMER, AND LIMITATION OF LIABILITY

**IMPORTANT:** Read the entire Label including this section titled Risks of Using this Product, Limited Warranty and Disclaimer, and Limitation of Liability before using this product. If the terms are not acceptable THEN DO NOT USE THE PRODUCT; rather, return the unopened product within 15 days of purchase for a refund of the purchase price.

#### RISKS OF USING THIS PRODUCT

The buyer and user (referred to collectively herein as "Buyer") of this product should be aware that there are inherent unintended risks associated with the use of this product which are impossible to eliminate. Such risks of crop injury, non-performance, resistance or other unintended consequences are unavoidable and may result because of such factors as weather, soil conditions, disease, moisture conditions, irrigation practices, condition of the crop at the time of application, presence of other materials either applied in the tank mix with this product or prior to application of this product, cultural practices or the manner of use or application, (or a combination of such factors) all of which are factors beyond the control of Corteva Agriscience. If the Buyer chooses not to accept these risks, THEN THIS PRODUCT SHOULD NOT BE APPLIED. By applying this product Buyer acknowledges and accepts these inherent unintended risks AND TO THE FULLEST EXTENT ALLOWED BY LAW, AGREES THAT ALL SUCH RISKS ASSOCIATED WITH THE APPLICATION AND USE ARE ASSUMED BY THE BUYER.

The Directions for Use of this product must be followed carefully. Corteva Agriscience shall not be responsible for losses or damages (including, but not limited to, loss of yield, increased expenses of farming the crop or such incidental, consequential, or special damages that may be claimed) resulting from use of this product in any manner not set forth on the label. To the extent consistent with applicable law, Buyer assumes all risks associated with the use of this product in any manner or under conditions not specifically directed or approved on the label.

#### LIMITED WARRANTY AND DISCLAIMER

Corteva Agriscience warrants only that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the label, under average use conditions, when used strictly in accordance with the label and subject to the Risks of Using This Product as described above. To the extent consistent with applicable law, CORTEVA AGRISCIENCE MAKES NO OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED. No agent or representative of Corteva Agriscience or Seller is authorized to make or create any other express or implied warranty.

#### LIMITATION OF LIABILITY

To the fullest extent allowed by law, Corteva Agriscience or Seller is not liable for any incidental, consequential, indirect or special damages resulting from the use or handling of this product. TO THE FULLEST EXTENT ALLOWED BY LAW, THE EXCLUSIVE REMEDY OF THE BUYER, AND THE EXCLUSIVE MAXIMUM LIABILITY OF CORTEVA AGRISCIENCE OR SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT SHALL BE THE RETURN OF THE PURCHASE PRICE OF THIS PRODUCT OR, AT THE ELECTION OF CORTEVA AGRISCIENCE OR SELLER, THE REPLACEMENT OF THE PRODUCT.

#### PROMPT NOTICE OF CLAIM

To the extent consistent with applicable law allowing such requirements, Corteva Agriscience must be provided notice as soon as Buyer has reason to believe it may have a claim, but in no event later than twenty-one days from date of planting, or twenty-one days from the date of application, whichever is later, so that an immediate inspection of the affected property and growing crops can be made.

To the extent consistent with applicable law, if Buyer does not notify Corteva Agriscience of any claims, in such period, it shall be barred from obtaining any remedy.

#### NO AMENDMENTS

Corteva Agriscience and Seller offer this product, and Buyer accepts it, subject to the foregoing Risks of Using This Product, Limited Warranty and Disclaimer, and Limitation of Liability, which may not be modified by any oral or written agreement.

#### COMMERCIAL TANK MIXES

NOTICE: Commercial tank mixing or use of this product with any other product which is not specifically and expressly authorized by the label shall be the exclusive risk of user, applicator and/or application advisor.

**Read and follow the entire label of each product to be used in the commercial tank mix with this product.**

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**Manufactured for  
Corteva Agriscience LLC  
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#### Revisions:

- Added use for controlling *Fusarium* spp.