

Integral[®]

Liquid Biofungicide

For use as a commercial seed treatment

Active Ingredient:

Bacillus amyloliquefaciens strain MBI 600*† 6.80%

Other Ingredients: 93.20%

Total: 100.00%

* **Integral[®] liquid biofungicide** contains a minimum of 2.2×10^{10} colony forming units per mL

† Formerly named *Bacillus subtilis* strain MBI 600

EPA Reg. No. 71840-5

EPA Est. No.

KEEP OUT OF REACH OF CHILDREN

CAUTION/PRECAUCION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

See inside for complete **Precautionary Statements, Directions For Use, Conditions of Sale and Warranty**, and state-specific crop and/or use site restrictions.

You may contact BASF Agricultural Solutions US LLC (hereafter "BASF") for emergency medical treatment information at 1-800-832-HELP (4357).

Net Contents:

Batch Code: Located on physical container

BASF Agricultural Solutions US LLC
2 TW Alexander Drive
Research Triangle Park, NC 27713

HOTLINE NUMBER

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact BASF for emergency medical treatment information at 1-800-832-HELP (4357).

Precautionary Statements

Personal Protective Equipment (PPE)

The PPE requirements apply to both Worker Protection Standard (WPS) uses (in general, agricultural-plant uses are covered by the Worker Protection Standard (40 CFR Part 170)) and Non-WPS uses.

Applicators and other handlers must wear:

- Long-sleeve shirt and long pants
- Waterproof gloves
- Shoes plus socks

Mixers/loaders and applicators must wear a NIOSH-approved particulate respirator with any N, P, or R filter with NIOSH-approval number prefix TC-84A or a NIOSH-approved powered air purifying respirator with an HE filter with NIOSH-approval number prefix TC-21C. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

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:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- 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

Environmental hazards statements for the following container sizes: 30 gal and 265 gal

DO NOT discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. **DO NOT** discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

Directions For Use

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

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.

DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of **4 hours**.

EXCEPTION: If the product is soil-injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water is:

- Coveralls
- Chemical-resistant gloves (made of any waterproof material)
- Shoes plus socks

NONAGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses that are NOT within the scope of the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep unprotected persons out of treatment area until seeds have dried or been packaged.

STORAGE AND DISPOSAL

DO NOT contaminate water, food, or feed by storage or disposal.

Pesticide Storage

Ensure container closures are tight. Store in a cool, dry place.

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 disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

Container Handling

For containers with capacities more than 5 gallons

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. 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 Ag Container Recycling Council at 877-952-2272 or www.acrecycle.org. Alternatively, puncture and dispose of in a sanitary landfill or by incineration. **DO NOT** burn, unless allowed by state and local ordinances. If burned, stay out of smoke.

In Case of Emergency

In case of large-scale spill of this product, call:

- CHEMTREC 1-800-424-9300
- BASF 1-800-832-HELP (4357)

In case of medical emergency regarding this product, call:

- Your local doctor for immediate treatment
- Your local poison control center (hospital)
- BASF 1-800-832-HELP (4357)

Product Information

Integral® liquid biofungicide contains bacteria that colonize germinating seeds and inhibit seed pathogens such as *Alternaria* spp. The same bacteria then colonize the developing root systems of plants and suppress disease organisms that attack such root systems (e.g., *Fusarium* spp., *Rhizoctonia* spp. and under some conditions, *Pythium* spp.). As root systems develop, the bacteria grow with the roots, extending the protection throughout the growing season. Because of this biological protection, vigorous root systems are established by plants, which often results in more uniform stands, and greater yields.

In addition, **Integral** has been shown to increase root nodulation by nitrogen-fixing bacteria when used on legumes. This increase in nodulation is a result of a healthier root system allowing formation of more sites for nitrogen-fixing nodules.

Label statement required by the State of Oregon

Information regarding the contents and levels of metals in this product is available on the Internet at <http://www.aapfco.org/metals.html>

Use Limitations

Chemigation: DO NOT apply this product through any type of irrigation system.

Application Instructions

For Use as a Commercial Seed Treatment

Note: This product does not contain dye and is not covered by an appropriate tolerance, tolerance exemption, or other clearance under the Federal Food, Drug and Cosmetic Act. To comply with 40 CFR 153.155, therefore, all seed treated commercially with this product must be colored with an EPA-approved dye or colorant of a suitable color to prevent accidental use as food for man or feed for animals.

The Federal Seed Act requires that bags containing seed treated with this product shall be labeled with the following information: "This seed has been treated with *Bacillus amyloliquefaciens* strain MBI 600. **DO NOT** use for food, feed, or oil purposes."

Mixing Instructions: Apply **Integral** as a water-based slurry alone, or with other seed treatment products (fungicides, insecticides, nematicides, fertilizers, etc.). Additionally, rhizobial inoculant products can be added to the tank mix.

Prior to mixing, determine physical compatibility by mixing proportional quantities of the products in water. **DO NOT** mix **Integral** with any other seed treatment product that bears a label prohibition against such mixing. When tank mixing **Integral** with any other seed treatment product, observe the most restrictive of the labeling limitations and precautions of all products used in mixtures.

ATTENTION: If rhizobial inoculants are to be used in the tank mix with other seed treatments (fungicides, insecticides, nematicides, fertilizers, etc.), make sure that they are compatible (not harmful) to the rhizobia. Likewise, use only cool, chlorine-free water in the tank mix. If one or more treatments are not compatible (harmful), mix those products in, and apply them from, a separate mix tank.

To mix, first add the other seed treatment product(s) and/or the rhizobial inoculant product(s) to the mix tank with approximately 1/2 of the required water. Slowly add **Integral® liquid biofungicide** to the slurry until a uniform suspension is obtained. Add the remainder of the water while maintaining constant agitation. **DO NOT** store mixed slurries for longer than 24 hours.

Application Instructions: For preventative control and suppression of seed pathogens (e.g. *Alternaria* spp.) and plant root pathogens (e.g., *Rhizoctonia* spp. and *Fusarium* spp.) and/or to increase nutrient uptake and the amount of nodulation by nitrogen-fixing bacteria (legumes), apply at least 5.0 fl ozs of total slurry per 100 lb of seed or at least 3.9 gal of total slurry per 10,000 lb of seed. Some ingredients in **Integral** may not completely solubilize; therefore, it is important to maintain a uniform suspension by continuously agitating the solution throughout the application process. **DO NOT** exceed label application dosage rates.

Because smaller seed has a greater surface area to volume ratio than larger seed, the average size of the seed being treated influences the application rate. Therefore, for each crop that has a range in the rate of application, apply **Integral** at rates from the higher end of the specified application rate range when treating smaller seed. Additionally, use the higher end of the specified application range when treated seed is to be planted in fields that historically experience severe disease pressure.

Soybeans - Integral Only

For preventative control and suppression of plant root pathogens (e.g., *Rhizoctonia* spp. and *Fusarium* spp.) and to increase the amount of nodulation by nitrogen-fixing bacteria, apply at a rate of 0.136 fl oz (4 mL) of **Integral** per 100 lb (45 kg) of soybean seed. Follow the mixing and dilution procedures described above.

Conditions of Sale and Warranty

The **Directions For Use** of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as the presence of other or untested or unapproved materials, seed of low quality or low vigor or low germination, use of the product in a manner inconsistent with its labeling, misapplication of this product, or weather conditions at planting or environmental conditions during seed storage, all of which are beyond the control of BASF Agricultural Solutions US LLC ("BASF") or the Seller. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer.

BASF warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the **Directions For Use**, subject to the inherent risks, referred to above.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BASF MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BUYER'S EXCLUSIVE REMEDY AND BASF'S EXCLUSIVE LIABILITY, WHETHER IN CONTRACT, TORT, NEGLIGENCE, STRICT LIABILITY, OR OTHERWISE, SHALL BE LIMITED TO REPAYMENT OF THE PURCHASE PRICE OF THIS PRODUCT.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BASF AND THE SELLER DISCLAIM ANY LIABILITY FOR CONSEQUENTIAL, EXEMPLARY, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.

BASF and the Seller offer this product, and the Buyer and User accept it, subject to the foregoing **Conditions of Sale and Warranty** that may be varied only by agreement in writing signed by a duly authorized representative of BASF.

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We create chemistry