

# Integral®

## Liquid Biofungicide

[Co-packed with Vault® Liquid Peanut Rhizobial Inoculant]

For use as an in-furrow treatment with Vault® Liquid Peanut Rhizobial Inoculant

**Active Ingredients:**

*Bacillus subtilis* strain MBI 600\* ..... 5.0%

**Other Ingredients:** ..... 95.0%

**Total:** ..... 100.0%

\*Contains a minimum of  $2.2 \times 10^{10}$  viable spores per milliliter.

EPA Reg. No. 71840-5

EPA Est. No. 67064-IA-001

**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 **First Aid, Precautionary Statements, Directions For Use, Conditions of Sale and Warranty.**

You may contact **BASF Corporation** for emergency medical treatment information at **1-800-832-HELP (4357).**

**Net Contents: 3.4 Fluid Ounces (101 Milliliters)**

BASF Corporation  
26 Davis Drive, Research Triangle Park, NC 27709

## FIRST AID

### 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 Corporation for emergency medical treatment information: 1-800-832-HELP (4357).

## Precautionary Statements

### Personal Protective Equipment (PPE)

The PPE requirements below 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-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

Mixers/loaders and applicators must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

Follow the manufacturer's instructions for cleaning and 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. As soon as possible, wash thoroughly and change into clean clothing.

### Environmental Hazards

For terrestrial uses: Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash water or rinsate.

## 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 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), notification to workers, 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

## NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses that are NOT within the scope of the Worker Protection Standard 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

**Nonrefillable Container. DO NOT** reuse or refill this container. **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 ¼ 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. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration.

## In Case of Emergency

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

- CHEMTREC 1-800-424-9300
- BASF Corporation 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 Corporation 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.

## Use Limitations

**Chemigation:** Do not apply this product through any type of irrigation system.

### FOR USE AS AN IN-FURROW TREATMENT

Mixing Instructions: Apply **Integral** as a water-based slurry alone, or with other in-furrow products (fungicides, insecticides, nematicides, fertilizers, etc.). Additionally, rhizobial inoculant products, such as BASF's **Vault® Liquid Peanut Rhizobial Inoculant**, 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 in-furrow product that bears a label prohibition against such mixing. When tank mixing **Integral** with any other in-furrow 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 in-furrow 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 in-furrow product(s) and/or the rhizobial inoculant product(s) to the mix tank with approximately ½ of the required water. Slowly add **Integral** 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.*), apply **Integral** in 5 to 20 gal (19 to 76 L) of water per acre via standard agricultural application machinery. 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.

### PEANUTS - Integral ONLY

Apply **Integral** at a rate of 0.1 – 1.2 fl oz (3 – 35 mL) per acre, after following the mixing and application procedures described above. Use the high end of the specified application rate when severe disease pressure is anticipated.

### PEANUTS - Integral CO-PACKED WITH Vault Liquid Rhizobial Inoculant

**Integral** can also be used in conjunction with *Rhizobia*-based inoculant products, such as BASF's **Vault** Liquid Peanut Rhizobial Inoculant. When used in combination with the **Vault** Liquid Peanut Rhizobial Inoculant, **Integral** provides the additional benefit of improving the nodulation of the roots by *Rhizobia* in the **Vault** Liquid Peanut Rhizobial Inoculant.

The **Vault** Liquid Peanut Rhizobial Inoculant consists of one (1) plastic bladder containing 1.1 gal (4.2 L).

The **Vault** Liquid Peanut Rhizobial Inoculant is co-packed in the same box with one (1) 3.4 fl oz (101 mL) plastic bottle of **Integral**.

One (1) **Vault** Liquid Peanut Rhizobial Inoculant and one (1) 3.4 fl oz (101 mL) bottle of **Integral** are designed to be used together to treat approximately 10 acres of peanuts.

Note that **Integral** is designed to work with the **Vault** Liquid Peanut Rhizobial Inoculant. Furthermore, the **Vault**

Liquid Peanut Rhizobial Inoculant does not affect the activity of **Integral**.

Mix the one (1) plastic bottle of **Integral** with the one (1) plastic bladder of **Vault** Liquid Peanut Rhizobial Inoculant, and an appropriate quantity of chlorine-free water. For more detailed mixing instructions see directions on the outside panel of the **Integral - Vault** Liquid Peanut Rhizobial Inoculant co-pack box.

## 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 weather conditions, presence of other materials, or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of BASF CORPORATION ("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 THE 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** which may be varied only by agreement in writing signed by a duly authorized representative of BASF.

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We create chemistry