

Integral[®]

Liquid Biofungicide

For use as a commercial seed treatment with the Vault[®] HP growth enhancement system

Active Ingredient:

Bacillus subtilis strain MBI 600* 5.0 %

Other Ingredients: 95.0%

Total: 100.0%

*Contains a minimum of 2.2×10^{10} viable spores per mL.

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

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

Batch code: (Printed on Bottle)

Net Contents:

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)

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.

Application Instructions

SOYBEANS - Integral CO-PACKED WITH Vault® HP GROWTH ENHANCEMENT SYSTEM

Integral can also be used in conjunction with *Rhizobia*-based inoculant products, such as BASF's **Vault HP Growth Enhancement System**. When used in combination with **Vault HP Growth Enhancement System**, **Integral** provides the additional benefit of improving root nodulation by *Bradyrhizobium japonicum* bacteria in the **Vault HP Growth Enhancement System**.

The **Vault HP Growth Enhancement System** consists of two (2) components –

- Liquid Growth Enhancer – a liquid mixture packaged in plastic bladders.
- **Vault** Liquid Rhizobial Inoculant – packaged in plastic bladders.

Both **Integral** and the Liquid Growth Enhancer are designed to work with the **Vault** Liquid Rhizobial Inoculant. Furthermore, neither the Liquid Growth Enhancer nor the **Vault** Liquid Rhizobial Inoculant affects the activity of **Integral**.

The **Vault HP Growth Enhancement System** (co-packed with **Integral**) is available in three (3) configurations. The “4 x 50” case contains four (4) individual 1 x 50 packages; the “2 x 100” case contains two (2) individual 1 x 100 packages and the “2 x 200” case contains two (2) individual 1 x 200 packages.

Package Designation	Total Pounds of Seed Treated*	Integral Liquid Biofungicide		Vault Liquid Rhizobial Inoculant		Liquid Growth Enhancer	
		# of Bottles	Content per Bottle	# of Bladders	Content Per Bladder	# of Bladders	Content Per Bladder
“4 x 50”	10,000	4	3.4 fl oz	4	25 fl oz	4	21.6 fl oz
“2 x 100”	10,000	2	6.8 fl oz	2	50 fl oz	2	43.2 fl oz
“2 x 200”	20,000	2	13.6 fl oz	2	100 fl oz	2	86.4 fl oz

*at an average seed size of 2,500 seeds per pound

Mix one (1) bottle of **Integral** with one (1) bladder of Liquid Growth Enhancer, one (1) bladder of **Vault** Liquid Rhizobial Inoculant, and a sufficient quantity of cool, chlorine-free water to equal at least 5.0 fl oz of total slurry per 100 lb of seed or 3.9 gal of slurry per 10,000 lb of seed when not used with additional treatments (see **Integral - Vault HP Growth Enhancement System co-pack insert for more detailed mixing instructions**).

The final mixture will result in the following application rates per 10,000 lb (4,536 kg) of soybean seed:

- 13.6 fl oz (402 mL) **Integral** Liquid Biofungicide
- 86.4 fl oz (2,555 mL) Liquid Growth Enhancer
- 100 fl oz (2,957 mL) **Vault** Liquid Rhizobial Inoculant

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.

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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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071840-00005.20141020.NVA 2014-04-499-0259

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The Chemical Company