

Biological Larvicide

# VECTOBAC® 12AS

## Aqueous Suspension

**Active ingredient:**

- Bacillus thuringiensis, subsp. israelensis, strain AM 65-52, fermentation solids and solubles.....11.61%
- Other Ingredients .....88.39%
- Total.....100.00%

Potency: 1200 International Toxic Units (ITU) per mg (Equivalent to 4.84 billion ITU per gallon, 1.279 billion ITU per liter)  
 There is no direct relationship between intended activity (potency) and the Percent Active Ingredient by Weight.

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

<p><b>FIRST AID</b></p> <p>If in eyes:</p> <ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul> <p>If on skin or clothing:</p> <ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>	<p><b>HOT LINE NUMBER</b></p> <p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-315-9619 (24 hours) for emergency medical treatment and/or transport emergency information. For all other information, call 1-800-823-9597.</p>
---	--

Net Contents: #####

**PRECAUTIONARY STATEMENTS  
 HAZARD TO HUMANS (AND DOMESTIC ANIMALS)  
 CAUTION**

Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash contaminated clothing before reuse. Mixer/loaders and applicators not in enclosed cabs or aircraft must wear a dust/mist filtering respirator meeting NIOSH standards of a least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

**PHYSICAL AND CHEMICAL HAZARDS**

Diluted or undiluted VectoBac 12AS can cause corrosion if left in prolonged contact with aluminum spray system components. Rinse spray system with plenty of clean water after use. Care should be taken to prevent contact with aluminum aircraft surfaces, structural components and control systems. In case of contact, rinse thoroughly with plenty of water. Inspect aluminum aircraft component regularly for signs of corrosion.

**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply directly to treated finished drinking water reservoirs or drinking water receptacles when water is intended for human consumption. Do not apply when weather conditions favor drift from treated areas. Do not apply to metallic painted objects, such as automobiles, as spotting may occur. If spray is deposited on metallic painted surfaces, wash immediately with soap and water to avoid spotting.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment - and - weather related factors determine the potential for spray drift. The applicator and the treatment coordinator are responsible for considering all these factors when making decisions.

Refer to supplemental labeling (package enclosure) for crops, rates, and general directions.

**CHEMIGATION**

Refer to Package Enclosure for use directions for chemigation. Do not apply this product through any irrigation system unless the labeling on chemigation is followed.

**STORAGE AND DISPOSAL**

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

STORAGE: Store in a cool, [less than 86°F (30°C)] dry place.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. Do not reuse container.

**NOTICE TO USER**

Seller makes no warranty, expressed or implied, of merchantability, fitness or otherwise concerning use of this product other than as indicated on the label. User assumes all risks of use, storage or handling not in strict accordance with accompanying directions.

EPA Registration No. 73049-38

EPA Est. No. 33762-1A-001

62002



870 Technology Way  
 Suite 100  
 Libertyville, IL 60048, USA

Lot No. #####

04-4094R11

22-02  
 17-03

3 PANEL 6-3/4"

2-1/4"

2-1/4"

2-1/4"

04-4095/R9

Registration Label

# VectoBac 12AS

Active Ingredient

Active Ingredient: <i>Bacillus thuringiensis</i> , subsp. <i>israelensis</i> , strain AM 65-52, fermentation solids and solubles	11.61%
Other Ingredients	88.39%
Total	100.00%

Potency: 1200 International Toxic Units (ITU) per mg (Equivalent to 4.84 billion ITU per gallon, 1.279 billion ITU per liter)

There is no direct relationship between intended activity (potency) and the Percent Active Ingredient by Weight.

EPA Reg. No. 73049-38  
EPA Est. No. 33762-1A-001

GLUE AREA  
FREE OF TEXT

GLUE AREA  
FREE OF TEXT

### PRECAUTIONARY STATEMENTS HAZARD TO HUMANS (AND DOMESTIC ANIMALS)

#### CAUTION

Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash contaminated clothing before reuse.

Mixer/loaders and applicators not in enclosed cabs or aircraft 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.

### PHYSICAL AND CHEMICAL HAZARDS

Diluted or undiluted VectoBac 12AS can cause corrosion if left in prolonged contact with aluminum spray system components. Rinse spray system with plenty of clean water after use. Care should be taken to prevent contact with aluminum aircraft surfaces, structural components and control systems. In case of contact, rinse thoroughly with plenty of water. Inspect aluminum aircraft component regularly for signs of corrosion.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply directly to treated finished drinking water reservoirs or drinking water receptacles when water is intended for human consumption.

Do not apply when weather conditions favor drift from treated areas. Do not apply to metallic painted objects, such as automobiles, as spotting may occur. If spray is deposited on metallic painted surfaces, wash immediately with soap and water to avoid spotting.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather related factors determine the potential for spray drift. The applicator and the treatment coordinator are responsible for considering all these factors when making decisions.

### CHEMIGATION

Do not apply this product through any irrigation system unless the labeling on chemigation is followed.

### STORAGE AND DISPOSAL

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

**Storage:** Store in a cool, [less than 86° F (30° C)] dry place.

**Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on-site or at an approved waste disposal facility.

**Container Disposal:** Triple rinse (or equivalent). Then puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. Do not reuse container.

### Ground and Aerial Application

VectoBac 12AS may be applied in conventional ground or aerial application equipment with quantities of water sufficient to provide uniform coverage of the target area. The amount of water will depend on weather, spray equipment, and mosquito habitat characteristics. Do not mix more VectoBac 12AS than can be used in a 72-hour period.

For most ground spraying, apply in 5-100 gallons of water per acre using hand pump, air-blast, mist blower, etc., spray equipment.

For aerial application, VectoBac 12AS may be applied either undiluted or diluted with water. For undiluted applications, apply 0.25 to 2.0 pts./acre of VectoBac 12AS through fixed wing or helicopter aircraft equipped with either conventional boom and nozzle systems or rotary atomizers.

For diluted application, fill the mix tank or plane hopper with the desired quantity of water. Start the mechanical or hydraulic agitation to provide moderate circulation before adding the VectoBac 12AS. VectoBac 12AS suspends readily in water and will stay suspended over normal application periods. Brief recirculation may be necessary if the spray mixture has sat for several hours or longer. **AVOID CONTINUOUS AGITATION OF THE SPRAY MIXTURE DURING SPRAYING.**

Rinse and flush spray equipment thoroughly following each use.

For blackfly aerial applications, VectoBac 12AS can be applied undiluted via fixed wing or helicopter aircraft equipped with either conventional boom and nozzle systems or open pipes. Rate of application will be determined by the stream discharge and the required amount of VectoBac 12AS necessary

GLUE AREA  
FREE OF TEXT

FIRST AID	
<b>If in eyes</b>	<ul style="list-style-type: none"> <li>Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If on skin or clothing</b>	<ul style="list-style-type: none"> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
HOT LINE 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 1-877-315-9819 (24 hours) for emergency medical treatment and/or transport emergency information. For all other information, call 1-800-323-9597.	

Proof A B C D E F

Valent BioSciences	
Prepared by BIOCOMP PRINTING COMPANY	
LIST NO.	05605-04-02
COMMOD. NO.	04-4095/R9
LABEL EDITOR	DVolling
DATE PREPARED	03-26-02
FORMULA & LABEL CONTROL APPROVAL D-720R	
APPROVED BY	
DATE	
*NOT VALID UNLESS FINAL PROOF'S CARRY APPROVAL SIGNATURE	
COLOR SEPARATIONS	
Black	

8-1/2"

3 PANEL 6-3/4"

2-1/4"

2-1/4"

2-1/4"

to maintain a .5 - 25 ppm concentration in the stream water. VectoBac 12AS can also be applied diluted with similar spray equipment. Do not mix more VectoBac 12AS than can be used in a 72-hour period.

**APPLICATION DIRECTIONS**

Do not apply when wind speed favors drift beyond the area of treatment.

**Mosquito Habitat** **Suggested Rate Range\***

(Such as the following examples): Irrigation ditches, roadside ditches, flood water, standing ponds, woodland pools, snow melt pools, pastures, catch basins, storm water retention areas, tidal water, salt marshes and rice fields.

In addition, standing water containing mosquito larvae, in fields growing crops such as: Alfalfa, almonds, asparagus, corn, cotton, dates, grapes, peaches and walnuts, may be treated at the recommended rates.

When applying this product to standing water containing mosquito larvae in fields growing crops, 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.

**Polluted water** **1 - 2 pts./acre**  
(such as sewage lagoons, animal waste lagoons).

\* Use higher rate range in polluted water and when late 3rd and early 4th instar larvae predominate, mosquito populations are high, water is heavily polluted, and/or algae are abundant.

**Blackflies Habitat** **Suggested Rate Range**

**Streams** **Stream water\*\* (=ppm) for 1 minute exposure time** **0.5 - 25 mg/liter**

**Stream water\*\* (=ppm) for 10 minutes exposure time** **0.05 - 2.5 mg/liter**

\*\* Use higher rate range when stream contains high concentration of organic materials, algae, or dense aquatic vegetation.

\*\* Discharge is a principal factor determining carry of Bti. Use higher rate or increase volume by water dilution in low discharge rivers or streams under low volume (drought) conditions.

**NUISANCE FLIES**

For control of nuisance flies (*Psychoda* spp., *Chironomus* spp.) in sewage treatment facilities utilizing trickling filter systems.

**APPLICATION DIRECTIONS**

**Nuisance Fly Habitat** **Suggested Rate Range\***

Trickling filter system of wastewater treatment plants **10 - 20 mg/liter a.(0.833-1.67 ml) per liter of wastewater feed to the filter per 30 minutes**

\* Use high rate for control of *Chironomus* spp. Apply undiluted with pre-calibrated pump or other device into the wastewater feeding into the filters for a period of 30 minutes. Repeat applications as needed after 2 - 4 weeks. Control of *Chironomus* spp. may take up to 2 weeks.

**NUISANCE AQUATIC MIDGES**

For control of *Chironomine* midges (*Chironominae:Chironomini*) inhabiting shallow, man-made and natural lakes or ponds.

**APPLICATION DIRECTIONS**

**Nuisance Midge Habitat** **Suggested Rate Range\***

Shallow Lakes and Ponds per sewage oxidation ponds (less than acre 6 feet deep) **1 gallon (3,785.5 ml) per acre**

\* Apply diluted with water in total volume of 5 gallons/acre by pouring or spraying over the surface to be treated with pre-calibrated device. Repeat application as needed after 2-4 weeks. Control of *Chironomine* midges may take up to 2 weeks.

**CHEMIGATION**

Apply this product through flood (basin) irrigation systems. Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in crop can result from non-uniform distribution of treated water.

If you have any questions about calibration, you should contact State Extension Service Specialists, equipment manufacturers or other experts.

A person knowledgeable of this chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

**RICE-FLOOD (BASIN)**

**CHEMIGATION**

Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from backflow if water flow stops.

VectoBac 12AS is metered or dripped into rice floodwater at application stations positioned at the point of introduction (levee cut) of water into each rice field or pan. Two to 3 pints of VectoBac 12AS are diluted in water to a final volume of 5 gallons. The diluted solution is contained in a 5 gallon container and metered or dispersed into the irrigation water using a constant flow device at the rate of 80 ml per minute. Introduction of the solution should

begin when 1/3 to 1/2 of the pan or field is covered with floodwater. Delivery of the solution should continue for a period of approximately 4-1/2 hours. Floodwater depth should not exceed 10-12 inches to prevent excessive dilution of VectoBac 12AS which could result in reduced larval kill.

Agitation is not required during the period in which the VectoBac 12AS suspension is being dispersed.

Application of VectoBac 12AS into rice floodwater is not permitted using a pressurized water and pesticide injection system.

**SMALL QUANTITY DILUTION RATES**  
**Gallons Spray Solution/Acre**  
**(Ounces Needed per Gallon of Spray)**

VECTOBAC 12AS Rates in Pints	10 Gal/A	25 Gal/A	50 Gal/A
0.25 (4 oz)	0.4	0.16	0.08
0.5 (8 oz)	0.8	0.32	0.16
1.0 (16 oz)	1.6	0.64	0.32
2.0 (32 oz)	3.2	1.28	0.64

**NOTICE TO USER**

Seller makes no warranty, expressed or implied, of merchantability, fitness or otherwise concerning use of this product other than as indicated on the label. User assumes all risks of use, storage or handling not in strict accordance with accompanying directions.

©2002



870 TECHNOLOGY WAY, SUITE 100  
LIBERTYVILLE, IL 60048 U.S.A.

List 5605

Printed in U.S.A

Proof A B C D E F

Valent BioSciences

Prepared by  
INDEPENDENT  
PRINTING COMPANY

LIST NO. 05605-04-02

COMM. NO. 04-4095/R9

LABEL EDITOR DVolling

DATE PREPARED 03-26-02

FORMULA & LABEL CONTROL APPROVAL D-720R

APPROVED BY

DATE  
\* NOT VALID UNLESS FINAL  
PROOF'S CARRY APPROVAL  
SIGNATURE

COLOR SEPARATIONS

Black

8-1/2"