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)
(Equivalent to 4.84 billion ITU per gallon, 1.279 billion ITU per liter)
and the Percent Active Ingredient by Weight.

EPA Reg. No. 73049-38
EPA Est. No. 33762-IA-001 List No. 05605

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**FIRST AID**

**If in eyes**
- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

**If on skin or clothing**
- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

**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.

**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:** 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. Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling or 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.

**CONTINUED**
5.0 **APPLICATION DIRECTIONS**

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

**Mosquito Habitat**

(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 (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**

- 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.

6.0 **NUISANCE FLIES**

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

**APPLICATION DIRECTIONS**

**Nuisance Fly Habitat**

<table>
<thead>
<tr>
<th>Trickling filter system of wastewater treatment plants</th>
<th>Suggested Rate Range*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10 - 20 mg/liter</td>
</tr>
<tr>
<td></td>
<td>a.(0.833-1.67 ml) per liter of wastewater feed to the filter per 30 minutes</td>
</tr>
</tbody>
</table>

* 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.

7.0 **NUISANCE AQUATIC MIDGES**

For control of Chironomine midges (Chironominae: Chironomini) inhabiting shallow, manmade and natural lakes or ponds.

**APPLICATION DIRECTIONS**

**Nuisance Midge Habitat**

<table>
<thead>
<tr>
<th>Shallow Lakes and Ponds</th>
<th>Suggested Rate Range*</th>
</tr>
</thead>
<tbody>
<tr>
<td>per sewage oxidation ponds</td>
<td>(3,785.5 ml) per acre</td>
</tr>
</tbody>
</table>

* 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.

8.0 **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, airblast, 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 pt/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.

By 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 to maintain a 0.5 - 25 ppm concentration in the stream water. VectoBac 12AS may be applied by 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.

9.0 **SMALL QUANTITY DILUTION RATES**

**Gallons Spray Solution/Acre (Ounces Needed per Gallon of Spray)**

<table>
<thead>
<tr>
<th>VectoBac 12AS Rate in Pints</th>
<th>Per Acre 10 Gal/A</th>
<th>25 Gal/A</th>
<th>50 Gal/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.25 (4 oz)</td>
<td>0.4</td>
<td>0.16</td>
<td>0.08</td>
</tr>
<tr>
<td>0.5 (8 oz)</td>
<td>0.8</td>
<td>0.32</td>
<td>0.16</td>
</tr>
<tr>
<td>1.0 (16 oz)</td>
<td>1.6</td>
<td>0.64</td>
<td>0.32</td>
</tr>
<tr>
<td>2.0 (32 oz)</td>
<td>3.2</td>
<td>1.28</td>
<td>0.64</td>
</tr>
</tbody>
</table>

CONTINUED
10.0 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 the crop can result from nonuniform 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.

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

11.0 NOTICE TO USER

Seller makes no warranty, express 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.

VectoBac is a registered trademark of Valent BioSciences Corporation.