1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

1.1 Product Identifier
MATERIAL NAME: VectoBac® WDG
Synonyms: VectoBac® WG, Gnatrol WDG, Gnatrol DG
EPA Reg No.: 73049-56
Code Number: 80893, 33921
List Number: 60215
Chemical Family: Not applicable; microbial product
Substance Registration Number(s)[REACH]: N/A

1.2 Relevant Identified Uses and Uses Advised Against
Identified Uses: Biological mosquito larvicide
Uses Advised Against: It is a violation of Federal law to use this product in a manner inconsistent with its FIFRA pesticide labeling.

1.3 Details of the supplier of the Safety Data Sheet
Supplied By: Valent BioSciences Corporation
870 Technology Way
Libertyville, Illinois 60048

1.4 EMERGENCY TELEPHONE NUMBERS
Emergency Health or Spill:
Outside the United States: 651-632-6184
Within the United States: 877-315-9819

2. HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture
Not Classified

2.2 Labeling Elements
Symbol(s)
Symbols not required

Signal Word
WARNING

Hazard Statement(s)
None

2.3 Precautionary Statement:
Prevention
Avoid breathing dust, wear dust mask when handling
Wash hands and face thoroughly after handling

**Response**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

**Disposal**

Dispose of contents/container in accordance with local/regional/national regulations.

2.4 Other Hazards

None identified.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Component Name</th>
<th>Classification</th>
<th>Percent</th>
</tr>
</thead>
</table>
| None      | *Bacillus thuringiensis* subsp. *israelensis*, strain AM65-52 | Irritating to Eyes – Cat 2B
            |                                                     | Skin Sensitizer – Cat 1B              | 37.4    |
| Trade Secret | Other ingredients                              | Not classified                        | 62.6    |

### 4. FIRST AID MEASURES

4.1 Description of First Aid Measures

**GENERAL:** In all cases of doubt, seek medical attention.

**EYES:** Remove from source of exposure. Flush with copious amounts of water. Remove contact lenses, if present and easy to do, after the first 5 minutes, then continue rinsing. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

**SKIN:** Remove from source of exposure. Take off contaminated clothing. Flush with copious amounts of water. If irritation occurs or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

**INGESTION:** Remove from source of exposure. Move person to fresh air. Do NOT induce vomiting. If signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

**INHALATION:** Remove from source of exposure. If signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary. If person is not breathing, call 911, then give artificial respiration.
4.2 Most important Symptoms and Effects, both Acute and Delayed
   Acute
   Possible eye and skin irritation

   Delayed
   No information on significant adverse effects

4.3 Indication of any Immediate Medical Attention and Special Treatment Needed
   Treat symptomatically and supportively

5. FIRE FIGHTING PROCEDURES

5.1 Extinguisher Media
   Suitable Extinguisher Media
   Dry chemical, water spray, foam or carbon dioxide. Use appropriate medium for the underlying cause of the fire.

   Unsuitable Extinguisher Media
   None known

5.2 Specific Hazards Arising from the Chemical
   Thermal decomposition products
   Carbon oxides, nitrogen oxides

5.3 Advice to Firefighters
   Protective Equipment and precautions for firefighters
   Fire fighter should wear full-face, self-contained breathing apparatus and impervious protective clothing. Fire fighters should avoid inhaling combustion products. See Section 8 (Exposure Controls / Personal Protection)

   Fire & Explosive hazard
   Not expected to be flammable.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures
   For respiratory protection wear a dust mask. Wear eye protection appropriate to handling activities. Wear impervious gloves. See personal protection as recommended in Section 8.

6.2 Environmental Precautions
   Dispose of excess product and washwaters according to local regulations.
6.3 Methods and Materials for Containment and Cleaning Up
   Wear appropriate personal protective equipment. Sweep up material and place in appropriate container for disposal. Avoid generating dust.

6.4 Reference to Other Sections
   See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations. See Section 13 for Disposal Considerations.

   US Regulations may require reporting spills of hazardous materials: See Section 15: REGULATORY INFORMATION for details on reportable quantities, if any.

7. HANDLING AND STORAGE

7.1 Precautions for Safe handling
   For respiratory protection wear a dust mask. Avoid contact with eyes, skin or clothing. Wash thoroughly after handling. Do not eat, drink, chew gum or smoke while working with product, obey reasonable safety precautions and practice good housekeeping.

7.2 Conditions for Safe Storage, Including Incompatibilities
   Protect against physical damage. Keep in original containers. Close containers of unused material. Store in a dry, cool place.

   Incompatibilities
   None Known

7.3 Specific End Use(s)
   Pesticide, biological mosquito larvicide

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters
   Component Exposure Limits
   None

   Derived No Effect Levels (DNELs)
   No DNELs available

   Predicted No Effect Concentrations (PNECs)
   No PNECs available

8.2 Exposure Controls
   Appropriate Engineering Controls
   Provide general ventilation.
SKIN PROTECTION:
Wear protective clothing, including boots and gloves. For filling operations if dust/mist is produced wear a dust mask. Wash thoroughly with soap and water after handling.

EYE PROTECTION:
Wear goggles, safety glasses with side shields.

RESPIRATORY PROTECTION:
Where respiratory protection is warranted, use dust/mist filtering respirator (MSHA/NIOSH approved number prefix TC-21C or a NIOSH approved respirator with any N, P, R or HE filter during application procedures or when repeat exposure is expected.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance/Odor</td>
<td>Brown fine granules</td>
</tr>
<tr>
<td>pH</td>
<td>5.8 (10% dispersion in water)</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Solubility (H\textsubscript{2}O):</td>
<td>Suspends and partially soluble</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>0.36 g/ml</td>
</tr>
<tr>
<td>Octanol/H\textsubscript{2}O Coeff:</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Decomposition Temp.:</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Auto Ignition</td>
<td>Not Determined</td>
</tr>
<tr>
<td>LFL:</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not Determined</td>
</tr>
<tr>
<td>UFL:</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>VOC:</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Flammability Class:</td>
<td>None of the components are classified as flammable or highly flammable, it can be concluded that the preparation itself will not be classified as highly flammable.</td>
</tr>
<tr>
<td>Kinematic Viscosity</td>
<td>Not Determined</td>
</tr>
</tbody>
</table>

10. CHEMICAL STABILITY AND REACTIVITY

10.1 Reactivity
Material does not pose a significant reactivity hazard.

10.2 Chemical Stability
Stable under ordinary conditions of use and storage. Spontaneous reaction not possible.

10.3 Possibility of Hazardous Reactions
Does not undergo hazardous polymerization.
10.4 Conditions to Avoid
None known

10.5 Incompatible Materials
None known

10.6 Hazardous Decomposition Products
Carbon oxides and unidentified organic compounds.

11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects
LIKELY ROUTES OF EXPOSURE
   Eye Contact: Yes
   Skin Contact: Yes
   Ingestion: No
   Inhalation: No

ACUTE EFFECTS  Product Toxicology Studies  (Data for product)
   ORAL TOXICITY: LD₅₀ > 5,000 mg/kg (rat)
   DERMAL TOXICITY: LD₅₀ > 5,000 mg/kg (rabbit)
   INHALATION TOXICITY: LC₅₀ > 0.014 mg/L air (rat- nose only; maximum feasible concentration)
   CORROSIVENESS: Not corrosive.
   DERMAL IRRITATION: Weakly irritating
   OCULAR IRRITATION: Mildly irritating
   DERMAL SENSITIZATION: Not a sensitizer (guinea pig)

MUTAGENICITY INFORMATION: Components of this product are not listed as mutagens.
CARCINOGENICITY INFORMATION: Components of this product are not listed as carcinogenic by NTP, IARC or OSHA.
DEVELOPMENTAL/REPRODUCTIVE TOXICITY: This material is not pathogenic
SPECIAL TARGET ORGAN EFFECTS: Eye and mucus membrane Irritation.
   ASPIRATION HAZARD: Not Applicable
   REPEAT DOSE STUDIES: Not Applicable, Pathogenicity Toxicity testing was all negative

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity (Data for a Concentrated Technical Powder)
   Fish:  LC₅₀ >370 mg/L (96-H, Rainbow Trout)
   Bird:  LC₅₀ >3077 mg /kg (6.2 x 10¹¹ cfu/kg) (Acute Oral - Bobwhite Quail)
          LC₅₀ >3077 mg /kg (6.2 x 10¹¹ cfu/kg) each day for 5 days (Sub-Acute Oral
12.2 Persistence and Degradability
No data available

12.3 Bioaccumulation potential
Not applicable. Substance is not pathogenic to non-target organisms

12.4 Mobility in Soil
No data available

12.5 Results of PBT and vPvB assessment
Assessments not performed

12.6 Other adverse effects
None known

13. DISPOSAL CONSIDERATIONS

13.1 Waste Disposal Methods
Dispose of product in accordance with federal, state, provincial, and local regulations. Prevent contamination of environment by wastes.

US EPA WASTE NUMBER & DESCRIPTIONS:
There is no applicable EPA waste number. This product, if discarded, is not expected to be a characteristic or listed hazardous waste.

14. TRANSPORTATION INFORMATION

DOT
STATUS: Not regulated for domestic ground transport by US DOT
UN PROPER SHIPPING NAME: N/A
REMARKS: N/A

IATA/ICAO
STATUS: Not Regulated
PROPER SHIPPING NAME: N/A
REMARKS: N/A

IMDG
STATUS: Not Regulated
PROPER SHIPPING NAME: N/A
REMARKS: N/A
15. REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations / Specific Legislation

TSCA STATUS: Exempt
CERCLA STATUS: Not regulated as hazardous
SARA STATUS:   Acute: No  Chronic: No  Fire: No  CDT: No
RCRA STATUS: Not regulated as hazardous
State Right-To-Know: Not Listed
Consult applicable national, state provincial or local laws to determine regulations, laws or ordinances which may be applicable.

OSHA HAZARD COMMUNICATION STANDARD: Not defined by the OSHA Hazard Communication Standard, 29 CFR

15.2 EPA Pesticide Regulations

EPA Registration Number: 73049-56
EPA Pesticide Label signal word: CAUTION
Product must have EPA Approved Pesticide Label attached to or accompanying all containers.

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions and limitations for its use.

KEEP OUT OF REACH OF CHILDREN

CAUTION

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Harmful if inhaled. Avoid breathing dust. Remove contaminated clothing and wash before reuse. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

Personal Protective Equipment:
Applicators and other handlers must wear: Long-sleeved shirt and long pants, water proof gloves, and shoes plus socks.

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.
Follow manufacturer’s instructions for cleaning/maintaining PPE. If no such instructions for washables, 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 products or using the toilet.

ENVIRONMENTAL HAZARDS
Do not apply directly to treated finished drinking water reservoirs or drinking water receptacles when water is intended for human consumption.

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

Storage: Store in cool [59-86°F (15-30°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:
Plastic Container: 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 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. Offer for recycling if available, 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.

Paper bag: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Offer for recycling, if available. If recycling is not available dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA Hazard Ratings</th>
<th>HMIS Hazard Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health: 1</td>
<td>Health: 1</td>
</tr>
<tr>
<td>Flammability: 0</td>
<td>Flammability: 0</td>
</tr>
<tr>
<td>Instability: 0</td>
<td>Instability: 0</td>
</tr>
</tbody>
</table>

0 = Minimal
1 = Slight
2 = Moderate
3 = Serious
4 = Extreme
SAFETY DATA SHEET

VectoBac® WDG Biological Larvicide

SDS# VBC-0019 Revision 2

REASON FOR ISSUE: Review and update hazard statement and warranty
APPROVAL DATE: 03/11/16
SUPERSEDES DATE: 04/14/15

The information provided in this Safety Data Sheet (SDS) is provided in good faith and believed to be accurate at the time of preparation of the SDS. However, to the extent consistent with applicable law, Valent BioSciences Corporation and its subsidiaries or affiliates extend no warranties, make no representations, and assume no responsibility as to the accuracy, suitability, or completeness of such information. Additionally, to the extent consistent with applicable law, neither Valent BioSciences Corporation nor any of its subsidiaries or affiliates represents or guarantees that this information or product may be used without infringing the intellectual property rights of others. Except to the extent a particular use and particular information are expressly stated on the product label, it is the users’ own responsibility to determine the suitability of this information for their own particular use of this product. If necessary, contact Valent BioSciences Corporation to confirm that you have the most current product label and SDS.

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABEL (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use as required by the Occupational Health and Safety Act (29 CFR 1910.1200, “Hazcom”). The product label provides information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products is regulated by the EPA under the authority of FIFRA through the product label. All necessary hazard classification and appropriate precautionary use, storage, and disposal information is set forth on that label or labeling accompanying the pesticide or to which reference is made on the label. It is a violation of federal law to use an EPA-registered pesticide product in any manner inconsistent with its labeling.