

VectoBac® 12AS Biological Larvicide Aqueous Suspension

SDS# VBC-0036 Revision 3

ISSUED 03/08/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY**1.1 Product Identifier****MATERIAL NAME:** VectoBac® 12 AS Biological Larvicide Aqueous Suspension**Synonyms:** VectoBac 12AS**EPA Reg No.:** 73049-38**Code Number:** 15576, 15577, 15578, 21894, 83872**List Number:** 05605**Chemical Family:** Not applicable; microbial product**1.2 Relevant Identified Uses and Uses Advised Against****Identified Uses:** 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**

Category 1B: Sensitization -Skin

2.2 Labeling Elements**Symbol(s)****Signal Word**

WARNING

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Hazard Statement(s)

May cause an allergic skin reaction

Precautionary Statement:

Prevention

- Avoid breathing mist or spray
- Wash thoroughly after handling
- Contaminated work clothing must not be allowed out of the workplace
- Wear protective impervious gloves

Response

- If on skin: Wash with plenty of water.
- If skin irritation or rash occurs: Get medical advice/ attention.
- Take off contaminated clothing and wash it before reuse.

Disposal

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

2.3 Other Hazards

None identified.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Component Name	Classification	Percent
None	<i>Bacillus thuringiensis</i> subsp. <i>israelensis</i>	Eye Irritation – Cat 2B Skin Sensitizer – Cat 1B	11.61 %
2634-33-5	Proxel GXL	Skin Sensitizer	0.10 %
Trade Secret	Other Ingredients – withheld as Trade Secret	Not classified	88.29 %

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. Cover irritated skin with an emollient. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

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INGESTION: Remove from source of exposure. Move person to fresh air. Do NOT induce vomiting. Give large quantities of water. 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**

Mild eye and skin irritation, mild sensitization potential

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

Keep containers cool by spraying with water if exposed to fire.

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.

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6. ACCIDENTAL RELEASE MEASURES**6.1 Personal Precautions, Protective Equipment and Emergency Procedures**

Wear a dust/mist filtering respirator, eye protection and impervious gloves.

6.2 Environmental Precautions

Dispose of excess product and washwaters according to local regulations.

6.3 Methods and Materials for Containment and Cleaning Up

Recover product with inert material (earth, sand, vermiculite), place into appropriate container for disposal. Do not flush to sewer.

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**

Avoid contact with eyes, skin or clothing. Wash thoroughly after handling. Do not eat, drink or smoke while working with product, obey reasonable safety precautions and practice good housekeeping.

7.2 Conditions for Safe Storage, Including and Incompatibilities

Store in a cool, dry place. For further information refer to local country registration and label.

Incompatibilities

None Known

7.3 Specific End Use(s)

Mosquito Larvicide.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Control Parameters****Component Exposure Limits**

None Established

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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 impervious protective clothing, including boots and gloves. Wear gloves made of impervious materials. Wash thoroughly with soap and water after handling.

EYE PROTECTION:

Wear goggles, safety glasses with side shields or full-face shield when splashing or spraying of materials is likely.

RESPIRATORY PROTECTION:

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light brown liquid	Odor:	Malt-like
pH:	5.0 (1% w/v susp)	Odor Threshold:	N/D
Melting Point:	°F (°C)	Boiling Point:	°F (°C)
Specific Gravity:	@ °F	Solubility (H ₂ O):	
Relative Density:	1.06 g/cm ³ @ 20 °C	Evaporation Rate:	N/D
Octanol/H ₂ O Coeff:	N/D	Decomposition Temp.:	N/D
Vapor Density:	N/D	Vapor Pressure:	N/D
VOC:	% by weight	Flammability Class:	Not flammable
Kinematic Viscosity:	cSt @ °C cSt @ °C		

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.

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10.3 Possibility of Hazardous Reactions

Does not undergo hazardous polymerization

10.4 Conditions to Avoid

Keep away from incompatible substances.

10.5 Incompatible Materials

Diluted or undiluted product can cause corrosion if left in prolonged contact with aluminum surfaces (e.g. spray equipment, aircraft components).

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

Inhalation: No

Ingestion: No

Acute Effects – Product Toxicology StudiesOral Toxicity: LD₅₀ > 5,000 mg/kg (rat)Dermal Toxicity: LD₅₀ > 5,000 mg/kg (rabbit)Inhalation Toxicity: LC₅₀ > 5.34 mg/L air

Corrosiveness: Not corrosive to humans, can be corrosive to aluminum.

Dermal Irritation: slightly-irritating, (category IV)

Ocular Irritation: slightly-irritating, (category IV)

Dermal Sensitization: Mild 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 a teratogenic compound. The NOEL for maternal and embryo toxicity in rabbits was ___ mg/kg/day. The NOEL for reproductive effects in rats was ___ ppm.

Special Target Organ: Slight eye and skin Irritation.

Aspiration Hazard: Not Applicable

Repeat Dose Studies: Not Applicable, Pathogenicity Toxicity testing was all negative

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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
(dietary) - Bobwhite Quail)Invertebrates: LC₅₀ >50 mg/L (48-H) (Daphnia)

Bees: Essentially non-toxic to honey bees.

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 INFORMATIONDOT STATUS: Not regulated by US DOT
UN PROPER SHIPPING NAME: N/A
REMARKS: N/A

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IATA/ICA0 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: Not Listed

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 FIFRA – Pesticide Labeling

EPA registration Number 73049-38

EPA Pesticide Label signal word: CAUTION

Product must have EPA Approved Pesticide Label attached 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
PRECAUTIONARY STATEMENT
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.

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Mixers/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® 12 AS 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 components regularly for signs of corrosion.

DIRECTIONS FOR USE

It is in 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.

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 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. 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.

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16. OTHER INFORMATION**NFPA Hazard Ratings**Health: N/D
Flammability: N/D
Instability: N/D**HMIS Hazard Ratings**Health: N/D
Flammability: N/D
Instability: N/D0 = minimal
1 = slight
2 = moderate
3 = serious
4 = ExtremeREASON FOR ISSUE: Updated List #'s
APPROVAL DATE: 03/08/16
SUPERSEDES DATE: 04/14/15LEGEND: N/A = Not Applicable
N/L = Not Listed
C = CeilingN/D = Not Determined
L = Listed
S = Short-term(R) = Registered Trademark of Valent BioSciences
(TM) = Registered Trademark of Valent BioSciences

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.