

DiPel ES Biological Insecticide Emulsifiable Suspension

SDS# VBC-0037 Revision 4

ISSUED 08/03/2017

[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:** DiPel ES Biological Insecticide Emulsifiable Suspension**Synonyms:** DIPEL PALM, Dipel 8L, DiPel SL, DiPel L PLUS, DiPel ES.CPI, DiPel 3.5 SL, DiPel SC, SEQURA PALM**EPA Reg No.:** 73049-17**Code Number:** 87377**List Number:** 05263 and 05555**Chemical Family:** Microbial, Btk strain ABTS-351**Substance Registration Number(s)[REACH]:** N/A**1.2 Relevant Identified Uses and Uses Advised Against****Identified Uses:** Agricultural Insecticide**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 LLC
870 Technology Way
Libertyville, Illinois 60048**1.4 EMERGENCY TELEPHONE NUMBERS****Emergency Health or Spill:**

Outside the United States: (+1) 651-632-6184

Within the United States: 877-315-9819

2. HAZARDS IDENTIFICATION**2.1 Classification of the Substance or Mixture**

Skin Sensitization

2.2 Labeling Elements**Symbol(s)**



SAFETY DATA SHEET

2 of 11

DiPel ES Biological Insecticide Emulsifiable Suspension

SDS# VBC-0037 Revision 4

ISSUED 08/03/2017

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

Signal Word

WARNING

Hazard Statement(s)

May cause an allergic skin reaction.

Precautionary Statement:

Prevention

Avoid breathing dust/fume/gas/mist/vapors/spray

Contaminated work clothing must not be allowed out of the workplace

Wear protective gloves

Response

IF ON SKIN: Wash with plenty of water.

If skin irritation or rash occurs: get medical advice/attention.

Specific treatment (see Section 4.1 First Aid)

Take off contaminated clothing and wash it before reuse.

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.

2.3 Other Hazards

None identified.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Component Name	Percent
68038-71-1	Btk Fermentation solids	23.7
Trade Secret	Other ingredients	76.3

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.



SAFETY DATA SHEET

3 of 11

DiPel ES Biological Insecticide Emulsifiable Suspension

SDS# VBC-0037 Revision 4

ISSUED 08/03/2017

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

SKIN: Remove from source of exposure. Take off contaminated clothing. Flush with copious amounts of water. If irritation persists 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. 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

Eye irritation, skin sensitization

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

None known

Thermal decomposition products

Carbon oxides, nitrogen oxides



SAFETY DATA SHEET

4 of 11

DiPel ES Biological Insecticide Emulsifiable Suspension

SDS# VBC-0037 Revision 4

ISSUED 08/03/2017

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

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

Use in a well-ventilated area. Respiratory protection is not needed during normal product use. Wear eye protection appropriate to handling activities. Wear impervious gloves. Wear appropriate body coverings if contact may occur. Where exposure level is not known, wear respirator protection suitable for expected level of exposure, in addition to the personal protection as recommended in Section 8.

6.2 Environmental Precautions

Keep out of drains, sewers, ditches and waterways. Avoid runoff to waterways and sewers.

6.3 Methods and Materials for Containment and Cleaning Up

Ventilate area. Wear appropriate personal protective equipment. 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

Ventilate. Do not breath mist or vapor. 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. For filling operations respiratory protection may be recommended particularly in enclosed areas.



SAFETY DATA SHEET

5 of 11

DiPel ES Biological Insecticide Emulsifiable Suspension

SDS# VBC-0037 Revision 4

ISSUED 08/03/2017

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

7.2 Conditions for Safe Storage, Including Incompatibilities

Protect against physical damage. Close containers of unused material. Store in a dry, cool, ventilated place.

Incompatibilities

None Known

7.3 Specific End Use(s)

Agricultural insecticide.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters

Component Exposure Limits

None Established

Chemical Name (CAS # __ - __ - __)

ACGIH TLV: 0. __ ppm 8-hour TWA

OSHA PEL: 0. __ ppm (1 mg/m³) 8-hour TWA

Other: Not Applicable

Chemical Name (CAS # __ - __ - __)

ACGIH TLV: 0. __ ppm 8-hour TWA

OSHA PEL: 0. __ ppm (1 mg/m³) 8-hour TWA

Other: Not Applicable

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. Where adequate general ventilation is unavailable use process enclosure, local exhaust ventilation, or other engineering controls.

SKIN PROTECTION:

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

DiPel ES Biological Insecticide Emulsifiable Suspension
SDS# VBC-0037 Revision 4
ISSUED 08/03/2017

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

EYE PROTECTION:

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

RESPIRATORY PROTECTION:

For filling operations if dust/mist is produced respiratory protection is recommended or 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). Wash thoroughly with soap and water after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Viscous oily brown liquid	Odor:	Burnt caramel
pH:	5.2-5.5 (1% slurry)	Odor Threshold:	Not determined
Melting Point:	Not Applicable - liquid	Boiling Point:	>400°F
Relative Density:	0.96	Solubility (H ₂ O):	Not Determined
Octanol/H ₂ O Coeff:	Not Determined	Bulk Density:	0.938 g/ml
Molecular Weight:	Not Applicable	Evaporation Rate:	Not Applicable
Auto Ignition:	Not Determined	Decomposition Temp.:	Not Determined
Flash Point:	360°F	LFL:	Not Determined
Vapor Density:	Not Determined	UFL:	Not Determined
VOC:	Not determined	Viscosity:	400-800 cps
Kinematic Viscosity:	Not Determined	Flammability Class:	Not flammable

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.



SAFETY DATA SHEET

7 of 11

DiPel ES Biological Insecticide Emulsifiable Suspension

SDS# VBC-0037 Revision 4

ISSUED 08/03/2017

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

11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects

Likely Routes of Exposure

Inhalation: Yes
Eye Contact: Yes
Skin Contact: Yes
Ingestion: Not likely

Product (or TGA) where noted) Toxicology

Acute Effects

Oral Toxicity: LD₅₀ > 5,050 mg/kg (rat) [EPA Toxicity Category IV]
Dermal Toxicity: LD₅₀ > 5,050 mg/kg (rabbit)
Inhalation Toxicity: LD₅₀ > 2.95 mg/L
Corrosiveness: Not corrosive.
Dermal Irritation: Non-irritating, [EPA Toxicity Category IV]
Ocular Irritation: mildly-irritating
Dermal Sensitization: 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 considered teratogenic

Special Target Organ: Eye and mucus membrane Irritation.

Aspiration Hazard: Not Applicable

Repeat Dose Studies: 90 day oral study on dogs presented no adverse effects

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity (Data for a Concentrated Technical Powder)

Do not allow into waterways or lakes.

Fish: LC₅₀ > 2.87 x 10⁷ cfu/L (96-H, Rainbow Trout)

Bird: LC₅₀ > 2857 mg/kg (5.7 x 10¹⁰ cfu/kg) each day for 5 days (Sub-Acute Oral)
(dietary) - Bobwhite Quail)

Invertebrates: EC₅₀ > 50 mg/L (48-Hr) (Daphnia)
21-day NOEC > 5.0 mg/L (Daphnia)

Honeybee: Essentially Nontoxic to honeybee

12.2 Persistence and Degradability

No data available



SAFETY DATA SHEET

8 of 11

DiPel ES Biological Insecticide Emulsifiable Suspension

SDS# VBC-0037 Revision 4

ISSUED 08/03/2017

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

12.3 Bioaccumulation potential

No data available

12.4 Mobility in Soil

No data available; active ingredient adheres to soil particles

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/ICA0

STATUS: Not Regulated

PROPER SHIPPING NAME: N/A

REMARKS: N/A

IMDG

STATUS: Not Regulated

PROPER SHIPPING NAME: N/A

REMARKS: N/A



SAFETY DATA SHEET

9 of 11

DiPel ES Biological Insecticide Emulsifiable Suspension

SDS# VBC-0037 Revision 4

ISSUED 08/03/2017

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

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: 73049-17

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.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS (AND DOMESTIC ANIMALS) CAUTION

Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling.

ENVIRONMENTAL HAZARDS

Do not apply directly to water, or to where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters. This product must not be applied aerially within ¼ mile of any habitats of endangered species or threatened lepidoptera. No manual application can be made within 300 feet of any threatened or endangered lepidoptera.



SAFETY DATA SHEET

10 of 11

DiPel ES Biological Insecticide Emulsifiable Suspension

SDS# VBC-0037 Revision 4

ISSUED 08/03/2017

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

STORAGE AND DISPOSAL

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

Storage: Keep containers tightly closed when not in use. Do not store at temperatures greater than 100° F. Roll or shake the container before dispensing.

Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water when disposing of equipment washwaters.

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. To find the nearest site, contact your chemical dealer or manufacturer, or contact Ag Container Recycling Council at 202-861-3144 or www.acrecycle.org. If recycling is not available puncture and dispose of the container in a sanitary landfill, or by other procedures approved by state and local authorities.

16. OTHER INFORMATION

NFPA Hazard Ratings

Health: 1
Flammability: 0
Instability: 0

HMIS Hazard Ratings

Health: 1
Flammability: 0
Instability: 0

0 = Minimal
1 = Slight
2 = Moderate
3 = Serious
4 = Extreme

REASON FOR ISSUE: Adding Brand Name.

APPROVAL DATE: 03/08/2017

SUPERSEDES DATE: 12/16/2016

LEGEND: N/A = Not Applicable

N/L = Not Listed

C = Ceiling

(R) = Registered Trademark of Valent BioSciences LLC

(TM) = Registered Trademark of Valent BioSciences LLC

N/D = Not Determined

L = Listed

S = Short-term



SAFETY DATA SHEET

11 of 11

DiPel ES Biological Insecticide Emulsifiable Suspension

SDS# VBC-0037 Revision 4

ISSUED 08/03/2017

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

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 LLC 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 LLC 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 LLC 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.



870 Technology Way
Libertyville, IL 60048 – 800-323-9597

© Valent BioSciences LLC, 2017