

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name: Javelin WG / Delfin WG
Product Type: Wettable granule
EPA Registration No. 70051-66
Active Ingredient: *Bacillus thuringiensis kurstaki* strain SA11
CAS No.: 680338-71-1

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Bio-insecticide
Uses advised against: Any uses not listed on the label

1.3. Details of the supplier of the safety data sheet

Name: Certis U.S.A., LLC
Address: 9145 Guilford Road, Suite 175
Columbia, Maryland 21046
U.S.A.
Phone Number: +01 (800) 255-3924
Website: <http://www.certisusa.com>

1.4. Emergency telephone number

Emergency number: +1 800 255-3924

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Hazard Classification: Not classified OSHA
EPA Signal Word: Caution see section 15
Hazard Statements: None
Pictogram: None
Precautionary Statements: Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using the toilet. Remove and wash contaminated clothing before reuse. Harmful if inhaled. Prolonged or frequently repeated contact with skin may cause allergic reactions in some individuals.

2.2 Other Hazards: Do not apply directly to water, or to areas where surface water is present or to intertidal areas below high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash waters. This product

may not be applied aerially within ¼ mile of any indangered or threatened Lepidoptera. No manual application may be made with 300 ft. of any any indangered or threatened Lepidoptera.

SECTION 3: Composition/information on ingredients

Ingredient	Cas#	% w:w
<i>B.thuringiensis kurstaki</i> Strain SA-11	68038-71-1	85

SECTION 4: First aid measures

4.1. Description of first aid measures

Generic measures

Eye Contact: Hold eye open and rinse slowly and gently for 15-20 minutes. Remove contact lens after 5 minutes then continue rinsing eye.

Skin Contact: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes.

Inhalation: Move person to fresh air. If person is not breathing, call 911 or an ambulance, the give artificial respiration, preferably mouth to mouth, if possible.

Call a poison control center or doctor for treatment advice. Have the product container with you when you calling a poison control center or doctor or going for treatment.

4.2. Most important symptoms and effects, both acute and delayed

May cause an allergic skin reaction. Irritant effects, cough, shortness of breath.

4.3. Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media: Dry chemical, foam, carbon dioxide.

Unsuitable Extinguishing Media: None known.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products: None known

5.3. Advice for firefighters

Protection of Firefighters: None known

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel:** Applicators and other handlers must wear:
Long sleeved shirt and long pants
Waterproof gloves
Shoes plus socks
Mixers and loaders must wear dust filtering respirator meeting NIOSH standards of at least N-95, r-95 or P-95. Repeated exposure to microbial proteins may cause allergic sensitization. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exists, use detergent and hot water. Keep and wash all PPE separately from other laundry.
When handlers use closed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides {40CFR 170.240 (d) (46)}, the PPE requirements may be reduced or modified as specified in the WPS.
- For emergency responders:** None specified.

6.2. Environmental precautions

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash waters. This product may not be applied aerially within ¼ mile of any indangered or threatened Lepidoptera. No manual application may be made with 300 ft. of any any indangered or threatened Lepidoptera.

6.3. Methods and material for containment and cleaning up

- Methods for Containment:** Contain spill. Reclaim material if possible.
- Methods for Clean-Up:** Collect mechanically. Sweep, vacuum, or shovel material into a container for disposal. Avoid generation of dusts. Clean up affected area with plenty of water. Flush the area with water to remove any residue. Do not allow wash water to contaminate water supplies.
- Other Information:** Dispose of in accordance with Federal, State and local procedures.

6.4. Reference to other sections

See Section 8 for occupational exposure limits and risk management measures. Refer to Section 13 for disposal considerations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using the toilet. Remove and wash contaminated clothing before reuse. Harmful if inhaled. Prolonged or frequently repeated contact with skin may cause allergic reactions in some individuals.

Users should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible wash thoroughly and change into clean clothing.

7.2. Conditions for safe storage, including any incompatibilities

Store in original container in a cool dry place inaccessible to children and pets and away from heat and direct sunlight. Protect from freezing. Storage at temperatures above 90°F may impair effectiveness.

7.3. Specific end use(s)

Pesticide, spray mixture, or rinse water that cannot be used according to the label instructions must be disposed of according to Federal, State and local procedures.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

OSHA Permissible Exposure Limits (PELs): Not determined

ACGIH Threshold Limit Values: Not determined

Other Exposure Limits: Not determined

8.2. Exposure controls

Engineering Controls: Ensure ventilation is adequate to keep airborne dust levels low.

Personal Protective Equipment

Eye/Face Protection: None specified

Skin Protection Wear long sleeved shirt, long pants, shoes and socks

Hand Protection: Water proof gloves

Body Protection: Wear long sleeved shirt, long pants, shoes and socks

Respiratory Protection: Mixer loaders and applicators must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95 or P-95. Repeated exposure to high concentrates of microbial proteins can cause allergic sensitization.

Thermal Hazards: None

General Hygiene Considerations: Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
Remove clothing /PPE immediately if pesticide gets inside. Wash PPE thoroughly according to manufacturer's instructions before reuse. Contaminated clothing should be washed separately before reuse.

Environmental exposure controls: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash water. This product is not to be applied aurally within ¼ mile of any habitats of endangered or threatened Lepidoptera. No

manual application may be made within 300 feet of any threatened or endangered Lepidoptera. Keep out of drains, sewers, ditches, and waterways.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance:	Brown granules (solid).
Odour:	Fishy
Odour Threshold:	Not established
pH 1% suspension:	5.5-6.5, 1% dilution
Melting Point / Freezing Point:	Not applicable
Initial Boiling Point:	Not applicable
Boiling Range:	Not applicable
Flash Point:	Not applicable
Evaporation Rate:	Not determined
Flammability (solid, gas):	Not determined
Lower & Upper Flammability Limits:	Not determined
Vapour Pressure:	Not applicable
Vapour Density:	Not applicable
Density:	0.428-0.473 g/cc
Solubility:	Not determined
Partition Coefficient (n-octanol/water):	Not determined
Auto-ignition Temperature:	Not determined
Decomposition Temperature:	Not determined
Viscosity:	Not applicable
Other relevant properties:	None known

9.2. Other information

Not available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No known hazardous reactions when handled and stored according to stated provisions.

10.2. Chemical stability

Stable when handled and stored according to stated provisions.

10.3. Possibility of hazardous reactions

No known hazardous reactions

- 10.4. Conditions to avoid** Avoid exposure to moisture. Exposure to excessive heat or open flame.
- 10.5. Incompatible materials** No known incompatible materials.
- 10.6. Hazardous decomposition products** No known hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute Toxicity

Toxicological information on the substance or mixture:

- LD₅₀ (oral)** > 5000 mg/kg, rat
- LD₅₀ (dermal)** No observed effect at 3.5 E+9 CFU/kg (rabbit)
- LC₅₀ (inhalation)** No observed effect based on test with corresponding active ingredient.
- Skin corrosion / irritation:** Non-irritating to the rabbit skin.
- Serious eye damage/irritation:** Mildly and reversibly irritating to the rabbit eye.
- Respiratory or skin sensitization:** Sensitizing.

Other information on adverse health effects:

Carcinogenicity

- NTP Listed:** Not applicable
- IARC Listed:** Not applicable
- OSHA:** Not applicable

11.2 Reference to other sections

See Section 4 for symptoms and acute and delayed effects.

SECTION 12: Ecological information

12.1. Toxicity

Test species	Test method	Test substance	LC ₅₀
Northern Bobwhite	5 day	Btk SA-11 Technical	LC ₅₀ > 3.86 x 10 ⁹ CFU/kg body weight
<i>Oncorhynchus mykiss</i>	30-day	Btk SA-11 Technical	LC ₅₀ > 1 x 10 ⁸ CFU/mL

<i>Daphnia magna</i>	48 hour, static	Btk SA-11 Technical	EC ₅₀ > 1 x 10 ⁸ CFU/mL
<i>Selenastrum capricornutum</i>	72 hour	Btk SA-11 Technical	EC ₅₀ > 1 x 10 ⁶ CFU/mL
<i>Apis mellifera</i> L	48 hour, dose response	Javelin/Delfin WG	LD ₅₀ oral > 428.66 µg/bee LD ₅₀ contact > 320 µg/bee

12.2. Persistence and degradability

Bacillus thuringiensis subspecies *kurstaki* (Btk) shows a rapid loss of activity in response to UV light.

12.3. Bioaccumulative potential

Btk is not pathogenic and does not reproduce in living organisms other than target Lepidopteran larvae.

12.4. Mobility in soil

Low based on scientific data for Btk.

12.5. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal Instructions: Do not contaminate water, food, or feed by storage and disposal.

Pesticide Storage: Store in original container in a cool, dry place inaccessible to children and pets and away from heat and direct sunlight. Protect from freezing. Storage at temperatures above 90°F may impair effectiveness.

Pesticide Disposal: Pesticide, spray mixture, or rinse water that cannot be used according to label instruction must be disposed of according to Federal, State, or Local procedures.

Container Handling: Non-refillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available or 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.

SECTION 14: Transportation information

14.1. UN number

Not regulated.

14.2. UN proper shipping name

Not regulated.

14.3. Transport hazard class(es)

Not regulated.

14.4. Packing group

Not regulated.

14.5. Environmental hazards

Not regulated.

14.6. Special precautions for user

Not regulated.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not regulated.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EPA: This product 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-pesticidal chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION, KEEP OUT OF REACH OF CHILDREN

Harmful if absorbed through the skin. Harmful if inhaled.

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals

Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

OSHA:	N/A
TSCA Status:	Exempt
CERCLA Reportable Quantity:	N/A
SARA Title III:	
Section 302:	N/A
Section 311/312:	N/A
Section 313:	N/A
RCRA Status:	N/A

SECTION 16: Other information

Disclaimer:

To the best of our knowledge, the information contained herein is accurate. However, neither Certis USA nor any of its subsidiaries assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All material may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.

SDS Authoring Information:

Revision date:	March 23, 2015
Date of Previous version:	June 15, 2006
Reason for Revision	OSHA Hazard Communication Standard 2012
SDS Prepared by:	Certis U.S.A., LLC