

**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 aerially 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**

<b>Appearance:</b>	Brown granules (solid).
<b>Odour:</b>	Fishy
<b>Odour Threshold:</b>	Not established
<b>pH 1% suspension:</b>	5.5-6.5, 1% dilution
<b>Melting Point / Freezing Point:</b>	Not applicable
<b>Initial Boiling Point:</b>	Not applicable
<b>Boiling Range:</b>	Not applicable
<b>Flash Point:</b>	Not applicable
<b>Evaporation Rate:</b>	Not determined
<b>Flammability (solid, gas):</b>	Not determined
<b>Lower &amp; Upper Flammability Limits:</b>	Not determined
<b>Vapour Pressure:</b>	Not applicable
<b>Vapour Density:</b>	Not applicable
<b>Density:</b>	0.428-0.473 g/cc
<b>Solubility:</b>	Not determined
<b>Partition Coefficient (n-octanol/water):</b>	Not determined
<b>Auto-ignition Temperature:</b>	Not determined
<b>Decomposition Temperature:</b>	Not determined
<b>Viscosity:</b>	Not applicable
<b>Other relevant properties:</b>	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:**

<b>LD<sub>50</sub> (oral)</b>	> 5000 mg/kg, rat
<b>LD<sub>50</sub> (dermal)</b>	No observed effect at 3.5 E+9 CFU/kg (rabbit)
<b>LC<sub>50</sub> (inhalation)</b>	No observed effect based on test with corresponding active ingredient.
<b>Skin corrosion / irritation:</b>	Non-irritating to the rabbit skin.
<b>Serious eye damage/irritation:</b>	Mildly and reversibly irritating to the rabbit eye.
<b>Respiratory or skin sensitization:</b>	Sensitizing.

**Other information on adverse health effects:**

**Carcinogenicity**

<b>NTP Listed:</b>	Not applicable
<b>IARC Listed:</b>	Not applicable
<b>OSHA:</b>	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 <sub>50</sub>
Northern Bobwhite	5 day	Btk SA-11 Technical	LC <sub>50</sub> > 3.86 x 10 <sup>9</sup> CFU/kg body weight
<i>Oncorhynchus mykiss</i>	30-day	Btk SA-11 Technical	LC <sub>50</sub> > 1 x 10 <sup>8</sup> CFU/mL

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

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

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