

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

**1.1. Product identifier**

**Product name:** Trident® Biological Insecticide  
**Product Type:** Biological Insecticide  
**EPA Registration No.** 70051-120  
**Active Ingredient:** *Bacillus thuringiensis* subspecies *tenebrionis* strain SA-10  
**CAS No.:** Not available

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

**Identified uses:** Biological Insecticide  
**Uses advised against:** Any use 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) 847 5620  
**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**

**OSHA Hazard Classification:** Not classified  
**EPA Signal Word:** CAUTION  
**Hazard Statements:** None  
**Pictogram:** None  
**Precautionary Statements:** EPA Precautionary Statements: Harmful if inhaled. Avoid breathing spray mist. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Harmful if absorbed through the skin.

**2.2 Other Hazards:** Repeated exposures to high concentrations of microbial proteins can cause allergic sensitization.

**SECTION 3: Composition/information on ingredients**

Ingredient	CAS #	% w/w
<i>Bacillus thuringiensis</i> subspecies <i>tenebrionis</i> strain SA-10 fermentation solids, spores, and insecticidal toxins	N/A	14.32%

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

**Generic measures**

**Eye Contact:** IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.

**Skin Contact:** IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes.

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

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

Hot Line Number 1-800-255-3924

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

None noted.

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

None noted.

**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:** Keep upwind of fire. Wear protective clothing and self-contained breathing apparatus. Fight fire from a safe distance.

**SECTION 6: Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel:** Use personal protection recommended in Section 8

**For emergency responders:** Use personal protection recommended in Section 8.

**6.2. Environmental precautions**

*(for Agricultural Use)*

Do not apply when bees or other pollinating insects are actively visiting the treatment area.

For terrestrial uses: 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 washwaters or rinsate. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollution Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

*(for Residential Use)*

To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help ensure that wind or rain does not blow or wash pesticide off the treatment area. Rinsing applications over the treated area will help avoid run off to water bodies or drainage systems.

**6.3. Methods and material for containment and cleaning up**

**Methods for Containment:** Contain spill. Reclaim material if possible.

**Methods for Clean-Up:** For small spills, contain the spill and stop the flow. Attempt to absorb with pet litter or other absorbent material, and place in a chemical container. Seal the container and handle in an approved manner.

**Other Information:** Dispose of in accordance with all Federal, State and local procedures.

**6.4. Reference to other sections**

Refer to Section 13 for disposal considerations.

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

Users should:

- Wash hands thoroughly before eating, drinking, chewing gum, using tobacco, or using the toilet.
- 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**

Do not contaminate water, food, or feed by storage or disposal. Store in a cool, dry area. Activity may be impaired by storage at temperatures above 90°F.

**7.3. Specific end use(s)**

Biological insecticide for agricultural use or home gardens and residential settings. Use only in accordance with the product label.

**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.

**Personal Protective Equipment** (Agricultural Use only)

**Eye/Face Protection:** Protective eyewear

**Skin Protection** Long sleeved shirt, long pants, shoes and socks, gloves

**Hand Protection:** Waterproof gloves

**Body Protection:** Long sleeved shirt, long pants, shoes and socks, gloves

**Respiratory Protection:** Mixers/loaders and applicators must wear and use a NIOSH approved particulate respirator with any N, R, or P filter with NIOSH approval number prefix TC-84A (if tank-mixing with any oil-based adjuvants, spreaders, or spreader/stickers, use only R or P filters); or a NIOSH approved powered air purifying respirator with an HE filter with NIOSH approval number prefix TC-21C.

**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 in areas where surface water is present or to intertidal areas below the mean high watermark. Do not contaminate water when disposing of equipment washwaters. Do not apply when bees are actively visiting the treatment area.

**SECTION 9: Physical and chemical properties**

**9.1. Information on basic physical and chemical properties**

<b>Appearance:</b>	Brownish, opaque liquid
<b>Odour:</b>	Fermentation odor
<b>Odour Threshold:</b>	Not available.
<b>pH:</b>	4.4-5.0
<b>Melting Point / Freezing Point:</b>	Not applicable
<b>Initial Boiling Point:</b>	Not available.
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	Not available.
<b>Lower &amp; Upper Flammability Limits:</b>	Not available.
<b>Vapour Pressure:</b>	Not available.
<b>Vapour Density:</b>	Not available.
<b>Density:</b>	1.02-1.08 at 20°C
<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>	1000 max cps
<b>Other relevant properties:</b>	Not available.

**9.2. Other information**

Not available.

**SECTION 10: Stability and reactivity**

<b><u>10.1. Reactivity</u></b>	No known hazardous reactions when handled and stored according to stated provisions.
<b><u>10.2. Chemical stability</u></b>	Stable when handled and stored according to stated provisions.
<b><u>10.3. Possibility of hazardous reactions</u></b>	None expected.
<b><u>10.4. Conditions to avoid</u></b>	Avoid exposure to moisture. Exposure to excessive heat or open flame.
<b><u>10.5. Incompatible materials</u></b>	None expected.

**10.6. Hazardous decomposition products** None expected.

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

**Acute Toxicity**

**Toxicological information on the substance or mixture:**

**LD<sub>50</sub> (oral)** Not orally toxic, infective, or pathogenic in rats when dosed at 9.22 x 10<sup>10</sup> - 1.21 x 10<sup>11</sup> CFU/animal

**LD<sub>50</sub> (dermal)** No signs of toxicity at dose of 9.6 x 10<sup>11</sup> CFU/kg bw, EPA Toxicity Category IV

**LC<sub>50</sub> (inhalation)** No signs of treatment related toxicity or infectivity

**Skin irritation:** Mild skin irritant, EPA Toxicity Category IV

**Eye irritation:** Mildly and reversibly irritating, EPA Toxicity Category III

**Respiratory or skin sensitization:** Not required.

**Other information on adverse health effects:**

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

**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**

This product may be toxic to bees and other pollinating insects exposed to direct treatment. No adverse effects are anticipated for non-target mammals, birds, plants, freshwater and marine animals, and non-target insects. The product may be toxic to bees and other pollinating insects exposed to direct treatment. Follow label instructions and do not apply when bees and other pollinating insects are actively visiting the treatment area.

Test species	Test method	Test substance	LC <sub>50</sub>
Mallard duck	154-16	<i>Bacillus thuringiensis</i> var. <i>tenebrionis</i>	LC <sub>50</sub> (30 day, oral) > 10,000 mg/kg bw

Test species	Test method	Test substance	LC <sub>50</sub>
<i>Oncorhynchus mykiss</i>	154-19	<i>Bacillus thuringiensis</i> var. <i>tenebrionis</i>	LC <sub>50</sub> (96 hour) > 100 mg/L
<i>Daphnia magna</i>	885.4240	<i>Bacillus thuringiensis</i> var. <i>tenebrionis</i>	NOEC 10 day (survival, reproduction) > 1.0 x 10 <sup>6</sup> CFU/mL EC <sub>50</sub> > 1.0 x 10 <sup>6</sup> CFU/mL
<i>Apis mellifera</i> L	154A-23	<i>Bacillus thuringiensis</i> var. <i>tenebrionis</i>	LC <sub>50</sub> (7-day) = 4.6 x 10 <sup>6</sup> CFU/mL

- 12.2. Persistence and degradability**      *Bacillus thuringiensis* species in general show a rapid loss of activity in response to UV light.
- 12.3. Bioaccumulative potential**              No data available.
- 12.4. Mobility in soil**                              No data available.
- 12.5. Other adverse effects**                      No data available.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

Agricultural Use

**Disposal Instructions:**

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

*Pesticide Storage:*      Store in a cool, dry area. Activity may be impaired by storage at temperatures above 90°F.

*Pesticide Disposal:*      Wastes resulting from this product must be disposed of on-site, or at an approved waste disposal facility.

*Container Handling:*      Non-refillable container. Do not reuse or refill this container.

for containers equal to or less than 5.0 gallons-

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. Then 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.

-for containers greater than 5 gallons-

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several

times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then 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.

Residential Use

*Pesticide Disposal and Container Handling:*

Non-refillable container. Do not reuse or refill this container.

*If empty:* Place in trash or offer for recycling if available.  
*If partly filled:* Call your local solid waste agency [or 1-800-CLEANUP] for disposal instructions. Never place unused product down any indoor or outdoor drain.

**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 inhaled. Avoid breathing spray mist.  
 Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing.  
 Harmful if absorbed through the skin.  
 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:** January 30, 2017  
**Date of Previous version:** December 27, 2016  
**Reason for Revision** Periodic Update  
**SDS Prepared by:** Certis U.S.A., LLC