

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

1.1. Product identifier

Product name: Deliver /CoStar WG
Product Type: Wettable Granule
EPA Registration No. 70051-69
Active Ingredient: *Bacillus thuringiensis* subspecies *kurstaki* strain SA-12
CAS No.: 68038-71-1

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
Signal Word: None
Hazard Statements: None
Pictogram: None
Precautionary Statements: Harmful if swallowed or absorbed through skin. Avoid breathing vapors or mist. Prolonged or frequently repeated skin may cause an allergic reaction in some individuals. Avoid contact with skin, eyes or clothing. Causes moderate eye irritation. Wash thoroughly with soap and water after handling and before eating drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash before reuse.

2.2 Other Hazards: 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. This product must not be

applied aerially within ¼ mile of any habitats of endangered or threatened Lepidoptera. No manual application can be made within 300 ft. of any threatened or endangered Lepidoptera.

SECTION 3: Composition/information on ingredients

Ingredient	Cas #	% w:w
<i>B. thuringensis</i> subspecies <i>kurstaki</i> Strain SA-12	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 then 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.

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

May cause eye irritation.

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

None specified.

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 specified

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

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. This product must not be applied aerially within ¼ mile of any habitats of endangered or threatened Lepidoptera. No manual application can be made within 300 ft. of any threatened or endangered Lepidoptera.

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, sweep up, keeping dust to a minimum, and place in an approved chemical container. Wash the spill area with water containing a strong detergent, absorb with pet litter or other absorbent material, sweep up and place in a chemical container. - Seal the container and handle in an approved manner.

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

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

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 above 90°F may impair effectiveness.

7.3. Specific end use(s)

Pesticide spray mixture, or rinse water that cannot be used must be disposed of according to Federal State, or 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: When handlers use closed system, enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40CFR 170.250 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

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 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. This product must not be applied aerially within ¼ mile of any habitats of endangered or threatened Lepidoptera. No manual application can be made within 300 ft. of any threatened or endangered Lepidoptera.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance: Pale brown granules (solid).

Odour: Fishy

Odour Threshold: Not established

pH: 6.0-6.5, 1% dilution

Melting Point / Freezing Point: Not applicable

Initial Boiling Point: Not applicable

Boiling Range:	Not applicable
Flash Point:	Not applicable
Evaporation Rate:	Unknown
Flammability (solid, gas):	Not determined
Lower & Upper Flammability Limits:	Not determined
Vapour Pressure:	Not applicable
Vapour Density:	Not applicable
Density:	19-21 lb. /cu ft.
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

<u>10.1. Reactivity</u>	No known hazardous reactions when handled and stored according to stated provisions.
<u>10.2. Chemical stability</u>	Stable when handled and stored according to stated provisions.
<u>10.3. Possibility of hazardous reactions</u>	No known hazardous reactions
<u>10.4. Conditions to avoid</u>	Avoid exposure to moisture. Exposure to excessive heat or open flame.
<u>10.5. Incompatible materials</u>	No known incompatible materials.
<u>10.6. Hazardous decomposition products</u>	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 body weight, rat
LD₅₀ (dermal) > 5050 mg/kg, study conducted with active ingredient
LC₅₀ (inhalation) > 3.26 mg/L/4h (highest attainable concentration in air)
Skin corrosion / irritation: Non-irritant to rabbit skin
Eye irritation: Mild, revisable irritation to rabbit eye
Respiratory or skin sensitization: Not considered to elicit a sensitizing reaction in guinea pigs.

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	Highly similar Btk strain	LC ₅₀ > 3.86 x 10 ⁹ CFU/kg body weight
<i>Oncorhynchus mykiss</i>	96 hour	CoStar/ Deliver WG	LC ₅₀ > 51 mg/L
<i>Daphnia magna</i>	48 hour	CoStar/ Deliver WG	EC ₅₀ > 141 mg/L
<i>Desmodemus subspiciatus</i>	72 hour, static	CoStar/ Deliver WG	NOEC = 300 mg/L (nominal)
<i>Apis mellifera</i> L	10 day	Btk strain SA-12	Not active on honey bees

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: Pesticides, spray mixture, or rinse water that cannot be used according to label instruction must be disposed of according to Federal, State, and 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 or inhaled. Causes moderate eye irritation.

Prolonged or frequently repeated skin contact may cause an allergic reaction 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:

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SDS Prepared by:	Certis U.S.A., LLC