**Gemstar® LC**

**INSECTICIDAL VIRUS**

A Liquid Concentrate Biological Insecticide For Control of Corn Earworm (Cotton Bollworm, Tomato Fruitworm), Old World Bollworm, and Tobacco Budworm

**CAN BE USED IN ORGANIC PRODUCTION**

**Active Ingredient:**
Polyhedral occlusion bodies (OBs) of the nuclear polyhedrosis virus of *Helicoverpa zea* (corn earworm): ........................................... 0.64%
**Other Ingredients:** ........................................................ 99.36%
**Total** ............................................................................ 100.00%

*Contains at least 2 billion OBs/mL of product

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

Refer to label booklet for precautionary information and Directions for Use.

**STORAGE AND DISPOSAL**

Do not contaminate water, food, or feed by storage or disposal.
**Pesticide Storage:** Store this product in the original sealed container in a cool, dry place inaccessible to children and pets. Bioactivity may be impaired by storage above 90°F. Product can be stored at room temperature for up to 60 days, but should be refrigerated for longer storage. Freezing will not harm this product.

**Pesticide Disposal:** To avoid waste, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

**Container Handling:** 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. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration. Do not burn, unless allowed by state and local ordinances. If burned stay out of smoke.

**FIRST AID**

If in eyes: Hold eye open and rinse slowly with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing the eye. Call a poison control center or doctor for treatment advice.

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

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

Hotline Number: 1-800-255-3924 [Chemtel].

**Net Contents:** 2.5 Gallons

**Can Be Used in Organic Production**

**OMRI Listed**

For Organic Use

**EPA Reg. No.** 70051-45
**EPA Est. No.** 70051-CA-001

Lot Number:

**Manufactured by**
Certis USA LLC
9145 Guilford Road
Suite 175
Columbia, MD 21046

EPA Est. Number 70051-CA
Lot Number ESL 20170509
20190530
GENERAL INFORMATION

Gemstar® LC is a highly effective insecticidal virus that infects and kills larvae (caterpillars) of the corn earworm (Helicoverpa zea) also known as the fall armyworm. The virus causes the caterpillars to feed on leaf tissue, causing it to wilt and die. TheJoan ingate the silkworm feeding stops within several days, become pale and lethargic, and then die as the virus replicates throughout their system. Viruses ingate from dead larvae may infect other feeding larvae feeding nearby. Read the label carefully.

SHAKE WELL BEFORE USING

APPLICATION INSTRUCTIONS

Because the virus may be ingate by larvae, use in areas that are free from waterfowl or birds. Do not apply through sprinkler irrigation systems or fogging. It is essential for good insect control. Spray down may ingate between treatment and cessation of larval feeding due to the virus inactivation. Larvae may cause considerable damage as they continue to feed, even if they eventually succumb to virus infection. Therefore, treat when larvae are young and present in the field in sufficient numbers to make the treatment effective. The virus technique is most effective if applied when larvae are in the early or middle stages of feeding. Insects feeding on nearby plants may ingest the virus particles from the feeding site and contaminate water when disposing of equipment washwater or rinsate. 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 apply in a manner inconsistent with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions for conditioning and preparing equipment for use. The virus technique is not compatible with chemigation or chemigation systems using water as a carrier. Do not use Gemstar® LC in any irrigation system, including greenhouse systems, that uses a hard water or hard water treatment system or that uses a saltwater system or any other system that produces a hard water effluent. Use in a manner inconsistent with the directions given herein. To the extent consistent with applicable law, NO OTHER EXPRESSED OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY IS MADE. CERTIS USA LLC warrants that the material contained herein conforms to the description on the label and is reasonably fit for the purposes intended by the user. The User shall shut the system down and make necessary adjustments should the need arise. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the user has a written agreement with the appropriate state or local government agency responsible for the water system.

APPLICATION RATES AND OTHER INFORMATION

CROPS

Vegetables and fruits such as:
Cabbages, lettuce, broccoli, cauliflower, celery, okra, sweet corn, peas, snap beans, beets, carrots, radishes, turnips, potatoes, onions, tomatoes, and other vegetables.

CRUDE

4-10 g/s

PROTECTIVE PRODUCTS

Soybeans, cotton, peanuts, tobacco, sugarcane, alfalfa, and forage crops.

Insecticidal viruses must be used when larvae are present in the treated area. Insecticidal viruses are highly specific and cannot control weeds.

For_Entergy_Corn: Make applications from early vegetative growth to tasseling and before emergence of silks. Retreatment may be required at 2-3 day intervals depending on egg counts and crop growth rate due to slow rate of activity of the virus.

For_Soil_Burrowing_Heliothis_veinators: When larvae are any stage prior to adult and actively feeding before, exclude bees from crops.

For applications on overhead sprinkler irrigation:
Gemstar® LC can be applied in overhead sprinkler irrigation using standard equipment and methods for overhead sprinkler chemigation. For cotton, peanut or other single-pannel applicators, apply in 5 in. of insecticidal virus water, mixing the required amount of Gemstar® LC continuously over the course of irrigation. For drip irrigation systems (such as solid-set with press) inject the required amount of Gemstar® LC into the irrigation water just before completion of the irrigation period. See attached "Chemigation Bulletin" for additional information.

Tanks and mixing compatibility:
Gemstar® LC is not compatible with organophosphates, pyrethroids, carbamates, or respiratory depressants. Gemstar® LC is compatible with pyridines B, chlorpyrifos or others chemicals. Gemstar® LC is not compatible with most miticides. Do not use Gemstar® LC in any irrigation system, including greenhouse systems, that uses a hard water or hard water treatment system or that uses a saltwater system or any other system that produces a hard water effluent. Use in a manner inconsistent with the directions given herein. To the extent consistent with applicable law, NO OTHER EXPRESSED OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY IS MADE.

CHEMICATION INSTRUCTIONS

Precipitation: Use this product through pressurized sprinkler irrigation systems (rigid or microsprinklers, overhead, solid set, lateral move, end tow, side roll, center pivot, or hand move, including mist-type systems). Do not apply this product through any other type of irriga-
Sprinkler chemigation:

1. Sprinkler chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line at least 50 feet downstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be disinfected at a water treatment plant prior to pesticide introduction. There shall be a complete physical barrier (air gap) between the outlet end of the RPZ and the top or overflow rim of the discharge tank of at least twice the length of the RPZ.

2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pipeline.

3. The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side or the flow line to the pesticide injection pump which is designed to prevent fluid from being withdrawn from the supply tank when the irrigation system is not operating.

4. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pipeline.

5. The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side or the flow line to the pesticide injection pump which is designed to prevent fluid from being withdrawn from the supply tank when the irrigation system is not operating.

6. Dilute the product in water following the label mixing directions. It may be premixed in a supply tank with water, fertilizer or other appropriate tank-mixed agricultural chemicals. Agitation is necessary. For center pivot, lateral move or other single-pass irrigators, application must be continuous in sufficient water to apply the specified rate evenly to the entire treated area. For static irrigation systems (such as solid set pipe with risers), inject the required amount of Gemstar® LC into the irrigation water just before completion of the irrigation period to rewire the concentration applyed and interlock rate.