

70051-44

12/22/2003

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# CYD-X®

## INSECTICIDAL VIRUS

An Aqueous Suspension  
Biological Insecticide for Control of the Codling Moth

FOR ORGANIC PRODUCTION



Active Ingredient\*:

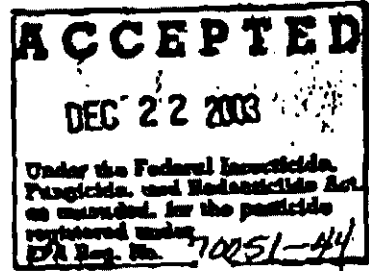
<i>Cydia pomonella</i> granulovirus.....	0.06%
Other Ingredients:.....	99.94%
Total.....	100.00%

\*Contains at least  $3 \times 10^{13}$  viral occlusion bodies (OBs) per Liter.

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

Net Contents: 1 Quart  
Lot No.:  
EPA Reg. No. 70051-44  
EPA Est. No. 70051-CA-001

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



CYD-X is an insecticidal virus product for control of larvae of the codling moth. Read this label carefully. Refer to the Technical Bulletin for Additional Guidelines for Use.

SEE SIDE PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS

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**PRECAUTIONARY STATEMENTS****HAZARDS TO HUMANS (AND DOMESTIC ANIMALS): CAUTION:**

Harmful if inhaled. Avoid breathing spray mist. Harmful if absorbed through skin. 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, or using tobacco. Remove and wash contaminated clothing before reuse.

**FIRST AID**

**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.

**If on skin or clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes.

**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.

Call a poison control center or doctor for treatment advice.

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

**PERSONAL PROTECTIVE EQUIPMENT:**

Applicators and other handlers must wear:

- Long sleeved shirt and long pants
- Shoes plus socks

Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**Engineering Control Statements:**

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

**IMPORTANT:** When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment break-down.

**USER SAFETY RECOMMENDATION**

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

**ENVIRONMENTAL HAZARDS:**

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.

**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

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**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification and emergency assistance. It also contains specific instructions and exemptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry interval (REI). The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls
- Waterproof gloves
- Shoes plus socks

**GENERAL INFORMATION**

**TECHNICAL BULLETIN  
CYD-X BIOLOGICAL INSECTICIDE**

**PRODUCT DESCRIPTION**

CYD-X contains an insecticidal baculovirus (scientific name: *Cydia pomonella granulovirus*) that is specific to larvae of the codling moth (*Cydia pomonella*). Because of this specificity, CYD-X provides a unique opportunity for biological control of codling moth without harmful effects on humans, domestic animals, wildlife, beneficial insects and plants.

**BIOLOGICAL PROPERTIES and MODE OF ACTION**

CYD-X is a biological insecticide which must be ingested by larvae in order to be effective. Upon ingestion, the viral occlusion bodies (OBs) dissolve in the larval midgut and release infectious virions. These enter the cells lining the digestive tract and replicate in the nuclei of those cells. The resulting progeny virus infect other tissues within the larva, which stops feeding and eventually dies from massive viral infection. After death, the larva disintegrates, releasing billions of new OBs which may infect other codling moth larvae upon ingestion. Death occurs 3 to 7 days after ingestion of CYD-X, depending on dosage and ambient temperature. Death may occur more quickly at higher temperatures and higher dosage.

Baculoviruses have been found only in invertebrates, no member of this family is known to infect vertebrates or plants. CYD-X does not reproduce in mammalian cells. No adverse effect to fish, wildlife or beneficial organisms has been observed.

This product can be inactivated by continuous exposure to temperatures above 90°F. For best results, keep the product refrigerated or frozen when not in use.

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**APPLICATION RATES**

CROP	Application rate	Comments
Apple, pear, plum, prune, and walnut	1 to 6 fluid ounces per acre	Apply in sufficient water for thorough coverage of the tree canopy. Repeat as necessary to maintain control

TARGET APPLICATION AGAINST SMALL LARVAE, EARLY IN THEIR LIFE CYCLE. LARVAE MUST INGEST CYD-X TO BE INFECTED, WHICH IS THE CASE WHEN THEY CONSUME SPRAYED PLANT MATERIAL.

USE NON-CHLORINATED WATER AT A pH NEAR 7.0 IN THE SPRAY-TANK MIX

CYD-X can be applied up to and including the day of harvest and storage.

**STORAGE AND DISPOSAL:**  
Do not contaminate water, food, or feed by storage or disposal.

**STORAGE:**  
Store this product in original sealed container in a cool, dry place (inaccessible to children and pets). Store at temperatures below 90°F. Bioactivity may be impaired by storage above 90°F. Storing the product in a freezer or refrigerator will extend its shelf life.

**PESTICIDE DISPOSAL:**  
Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**CONTAINER DISPOSAL:**  
Plastic container - triple rinse (or equivalent). Then offer for recycling or reconditioning, 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.

**WARRANTY**

Certis USA L.L.C. warrants that the material contained herein conforms to the description on the label and is reasonably fit for the purposes referred to in the directions for use. Timing and method of application, weather, watering practices, nature of soil, the insect problem, condition of the crop, incompatibility with other chemicals not specifically recommended and other influencing factors in the use of this product are beyond the control of the seller. Buyer assumes all risks of use, storage or handling of this material not in strict accordance with directions given herein. NO OTHER EXPRESS OR IMPLIED WARRANTY OF THE FITNESS OR MERCHANTABILITY IS MADE.

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