

# Thuricide® HP Wettable Powder

## Biological Insecticide

**Active Ingredient:**

<i>Bacillus thuringiensis</i> subspecies <i>kurstaki</i>	
solids, spores and Lepidopteran active toxins*	70.0%
Other Ingredients:	30.0%
<b>Total:</b>	<b>100.0%</b>

\*The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

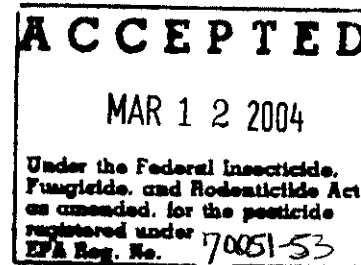
### KEEP OUT OF REACH OF CHILDREN

### CAUTION

EPA Reg. No. 70051-53  
EPA Establishment No. 70051-CA-001

NET CONTENTS: 25 lbs. (11.34 kg.)  
LOT NO.

Manufactured by:  
Certis USA, L.L.C.  
9145 Guilford Road, Suite 175  
Columbia, MD 21046



**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS: CAUTION**

Harmful if inhaled or swallowed. Avoid breathing vapors or spray mist. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash 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. Call a poison control center or doctor for further treatment advice.

**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.

**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 swallowed:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to by a poison control center or doctor. Do not give anything to an unconscious person.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. Hot Line Number: 1-800-255-3924.

**ENVIRONMENTAL HAZARDS**

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 washwater or rinsate.

**Personal Protective Equipment:**

Applicators and other handlers must wear:

-Long-sleeved shirt and long pants

-Waterproof gloves

-Shoes plus socks

-Mixers/loaders and applicators must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, and P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

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

**User Safety Recommendations:**

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE 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.

**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 through any type of irrigation system.

Thorough coverage is essential when using Thuricide® HP Wettable Powder.

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.

**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 exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box 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**

Apply at first sign of infestation when worms are small and repeat at weekly intervals as needed to maintain control. Thuricide® HP Wettable Powder attacks the larval gut and must be eaten by the insect to be effective. Thorough underleaf coverage is therefore, essential for best results. After eating Thuricide® HP Wettable Powder, worms stop feeding and die within 2-3 days. Since the active ingredient, *Bacillus thuringiensis*, is exempt from tolerance requirements, Thuricide® HP Wettable Powder may be applied up to the day of harvest.

**MIXING**

Pour application rate amount of Thuricide® HP Wettable Powder onto the surface of partially filled spray tank. Maintain agitation until tank is filled to desired level. Spray tanks equipped with bypass agitation only should maintain pump circulation at full capacity until mixing is complete.

Use the higher rates against very heavy worm infestations or where it is difficult to get good coverage due to rank foliage. Do not allow dilute sprays to stand in the tank for more than 12 hours. Combinations with chemical insecticides, fungicides, spreader-stickers, and stickers in the tank are generally not deleterious to Thuricide® HP Wettable Powder if the mix is used promptly.

**GROUND APPLICATION**

Use application rate amount of Thuricide® HP Wettable Powder in a minimum of 5 to 50 gallons of water, depending on the type of crop and requirements of state regulations. Add a sticker, adhesive or deposit builder where heavy dew or rain is encountered.

**GROUND APPLICATION, TREES**

Use application rate amount of Thuricide® HP Wettable Powder in 100 gallons of water in high pressure, high gallonage, hydraulic sprayers. Wet foliage thoroughly with spray but not to the point of excessive runoff. For mist blowers use application rate amount in 10 gallons of water. To prevent washoff by rain, add a sticker to the finished spray.

**AERIAL APPLICATION**

Use application rate amount of Thuricide® HP Wettable Powder in 5 to 20 gallons of water. A sticker should be added under conditions of heavy dew or rain. Apply early morning or evening when the air is calm.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determines the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

**APPLICATION RATES**

Crop	Pest	Lbs. per acre
ALFALFA	Alfalfa Caterpillar	1/6-1/4
ALMONDS <sup>1</sup>	Redhumped Caterpillar	1/2-1
ALMONDS <sup>1</sup> , CHERRIES <sup>1</sup> Apply when caterpillars are actively feeding (2nd - 4th instar).	Tent Caterpillar	1/2-1
APPLES <sup>1</sup> , PEARS <sup>1</sup> Apply when eggs or newly hatched larvae first appear. Continue applying as a part of the normal cover spray program until pest is adequately controlled.	Redbanded Leafroller, Tufted Apple Budmoth, Variegated Leafroller, Tent Caterpillar, Fruit Tree Leafroller, Gypsy Moth	1/2-1
BROCCOLI, BRUSSELS SPROUTS, CABBAGE, CAULIFLOWER, COLLARDS, KALE, MUSTARD GREENS,	Diamondback Moth Imported Cabbage Worm	1/4-1/2 1/4-3/4

TURNIP GREENS	Green Cloverworm Cabbage Looper	1/4-3/4 1/2-1
BEANS, BEETS, CARROTS, CELERY, CHARD, CHINESE CABBAGE (Choy sum), COS LETTUCE, ENDIVE, ESCAROLE, GARLIC, KOHLRABI, LENTILS, LETTUCE, ONIONS, PARSLEY, RADISHES, SPINACH, SQUASH, PEAS	Cabbage Looper	1/2-1
CUCUMBERS, MELONS Begin treatment when worms are small to avoid damage and scarring to the crop.	Cabbage Looper	1/2-1
EGGPLANT, PEPPERS	Tomato Hornworm Tomato Fruitworm <sup>2</sup> , Cabbage Looper	1/4-1/2 1/2-1
CURRENTS, BLUEBERRIES, CANEBERRIES (BLACKBERRIES, DEWBERRIES, RASPBERRIES) Apply by ground equipment only. Begin treatment as soon as possible after hatching and before larvae are protected by leaf folds.	Omnivorous Leafroller	1/2-1
COTTON	Tobacco Budworm, Cotton Bollworm	1/2-1

For the suppression of light to moderate infestations, apply at first sign of egg laying or newly hatched worms (1st and 2nd instar larvae). Reapply at 3-5 day intervals to sustain worm suppression or until adequate reduction of worm population is achieved. Use Thuricide® HP Wettable Powder under a pest management program that includes close scouting. If heavy worm populations occur, it may be necessary to apply an insecticide with rapid knockdown and good larvicidal activity as a replacement. Apply from 5-15 gallons total spray per acre with ground equipment and from 2-5 gallons total spray per acre with aerial equipment.

Crop	Pest	Lbs. per Acre
COTTON	Cabbage Looper	1/2-1
PEANUTS	Cabbage Looper Velvetbean Caterpillar Podworm <sup>2</sup>	1/4-3/4 1/4-3/4 1/2-1
POTATOES	Cabbage Looper	1/2-1
SOYBEANS	Soybean Looper Cabbage Looper, Green Cloverworm, Velvetbean Caterpillar Podworm <sup>2</sup>	1/2-3/4 1/2-3/4 1/4-3/4 1/4-3/4 1/2-1
SUGARBEETS	Cabbage Looper, Omnivorous Leafroller	1/2-1
TOBACCO	Cabbage Looper, Tobacco Budworm, Tobacco Hornworm	1/2-3/4 1/4-3/4 1/4-3/4
TOMATOES	Tomato Hornworm Cabbage Looper Tomato Fruitworm <sup>2</sup>	1/4-1/2 1/2-1 1/2-1
WATERMELONS (Florida)	Rindworm Complex	1/4-3/4
GRAPES Start treating as soon as possible after hatching and before	Grape Leaf Folder	1/2-1

larvae are protected by leaf folds. Apply by ground equipment in up to 200 gallons total spray per acre to obtain thorough coverage of leaf surfaces.		
GRAPES	Omnivorous Leafroller	1/2-1
MINT	Cabbage Looper	1/2-1
STRAWBERRIES Use 20 gallons water minimum per acre when using ground equipment and 5 gallons water minimum per acre by aircraft.	Cabbage Looper, Roughskinned Cutworm	1/2-1
SUGAR MAPLE	Spring & Fall Cankerworm, Fall Webworm, Tent Caterpillar, Gypsy Moth	1/2-1
PEACHES, NECTARINES	Redhumped Caterpillar, Tent Caterpillar, Omnivorous Leafroller	1/2-1
BANANAS (Hawaii) Use calibrated ground equipment with adequate water to apply to point of runoff.	Banana Skipper	1/2-1
ORANGES	Fruit Tree Leafroller Orange Dog	1/2-1 1/4-1/2
ORANGES Use 50 gallons water minimum to 600 gallons maximum per acre when using ground equipment, and 10 gallons water minimum per acre by aircraft.	Citrus Cutworm	1/2-1
FILBERTS <sup>1</sup> *Apply at 10% egg hatch. ** Apply when caterpillars are actively feeding (2nd-4th instar.)	Tent Caterpillar**, Filbert Leafroller*	1/2-1

Crop	Pest	Lbs. per Acre
PECANS <sup>1</sup>	Redhumped Caterpillar, Fall Webworm, Tent Caterpillar	1/2-1
WALNUTS <sup>1</sup> Use 50 gallons water minimum to 600 gallons maximum per acre when using ground equipment, and 10 gallons water minimum per acre by aircraft.	Redhumped Caterpillar, Tent Caterpillar, Fall Webworm, Omnivorous Leafroller	1/4-1 1/2-1
SHADE TREES, ORNAMENTALS, FOREST	Spring & Fall Cankerworm, Fall Webworm Tent Caterpillar Redhumped Caterpillar Oakmoth Larvae, Gypsy Moth <sup>3</sup>	1/4-1/2 1/4-1 1/2-1
STORED SOYBEANS AND GRAINS	Indian Meal Moth, Almond Moth	

To control and prevent Indian Meal Moth and Almond Moth infestations of stored soybeans and grains, prepare a spray mixture which includes one gallon of water for every tenth of a pound of Thuricide® HP Wettable Powder. The spray mixture may be applied either by treating the top 4 inches of grain as it is being augured into storage (applying 0.6 pint of mixture per bushel in the grain stream), or by treating the surface of grain after it is in the bin. The following table can be used as a guide in determining the total

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amount of Thuricide® HP Wettable Powder needed according to the bin diameter or the number of bushels to be treated.

Bin Diameter (ft.)	Surface Area (sq. ft.)	Bushels (to 4 inch depth)	Thuricide® HP Wettable Powder Rate (Lbs.)
8	50	13	0.1
12	113	30	0.25
16	201	53	0.4
20	314	84	0.6
24	452	120	0.9
28	615	163	1.25
32	804	214	1.6

To insure thorough coverage when making applications to the grain surface after it is in the bin, apply spray mixture in three applications. Mix the grain with a scoop or rake to a depth of 4 inches after each application.

Stored grain may be treated anytime, but for best results, treat grain at the time it is placed into storage or shortly thereafter, or in the early spring prior to egg laying. Full season control is normally experienced. Retreat only if reinfestation occurs.

For the protection of bagged grain, apply spray mixture to entire grain mass, and mix thoroughly prior to bagging. Thuricide® HP Wettable Powder at ¼ lb. per 10 gallons of water will treat approximately 100 bushels.

Treated grain may be used at any time after treatment.

**Greenhouse Application**

Thuricide® HP Wettable Powder may also be used in the greenhouse and on flowers for control of specified insects. Use a rate of ¼-1/2 lb. Thuricide® HP Wettable Powder per 100 gallons of water.

<sup>1</sup> To achieve adequate coverage of large trees or dense foliage, aerial application of not less than 15 gpa is preferred.

<sup>2</sup> Suppression only.

<sup>3</sup> Gypsy Moth: Aerial Application.

Thuricide® HP Wettable Powder may also be applied by air to prevent excessive defoliation by Gypsy Moth. For best results, spray when leaf expansion reaches 40% - 50%, and respray 14 days later. Use one pound of Thuricide® HP Wettable Powder in 1-4 gallons finished spray per acre. Incorporate in the spray mix an evaporation retardant, such as molasses, Cargill's Insecticide Base, polyethylene glycol E-400, and a film forming sticker. To obtain thorough coverage use spray equipment suitable to deliver droplets with an average diameter of less than 300 microns.

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### **STORAGE AND DISPOSAL**

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

#### **PESTICIDE STORAGE**

Store in a cool place. Activity may be impaired by storage at temperatures above 90° F.

#### **PESTICIDE DISPOSAL**

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

#### **CONTAINER DISPOSAL**

Completely empty bag into application equipment. Then 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.

#### **Conditions of Sale and 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 OF MERCHANTABILITY IS MADE.**

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