

2020-08-25
Sub.No. 2020-3528

BIOPROTEC XHP

AQUEOUS BIOLOGICAL INSECTICIDE

SUSPENSION

GROUP 11 INSECTICIDE

FORESTS and WOODLANDS,

RESTRICTED

READ THE LABEL BEFORE USING

POTENTIAL SENSITIZER

CAUTION EYE IRRITANT

GUARANTEE:

Bacillus thuringiensis subspecies *kurstaki*, strain EVB113-19

Potency: 21,700 Cabbage Looper Units (CLU) per mg of product (equivalent to 25,4 billion CLU per liter)

REGISTRATION NO: 27749 PEST CONTROL PRODUCTS ACT

NET CONTENTS (LITRES): 205, 1000 litres, bulk tanker truck

LOT NO.

DATE OF MANUFACTURE:

Registrant:
Valent BioSciences LLC
1910 Innovation Way, Suite 100
Libertyville, IL 60048
USA 1-800-323-9597

Canadian Agent:
Valent Canada, Inc.
201-230 Hanlon Creek Blvd
Guelph, ON, N1C 0A1

DIRECTIONS FOR USE

Bioprotec XHP is toxic only to some species of lepidopteran larvae. It is a stomach intoxicant only; to be effective, deposits of Bioprotec XHP must be ingested by susceptible larvae. Thorough coverage of target foliage where larvae are feeding is essential. In general, larvae should be treated when they are newly hatched and actively feeding. After ingestion of a sufficient dose, larvae cease feeding within a few hours and death occurs in 2 - 5 days.

Bioprotec XHP is a water-based formulation, which may be applied undiluted or diluted with clean water. Dilute with minimal quantities of clean water only when required to improve coverage. If diluting with water, add the recommended amount of Bioprotec XHP to the required amount of water in the spray tank. Agitate as necessary to maintain suspension. Use diluted mixtures of Bioprotec XHP within 18 hours of mixing and recirculate mixture before loading and/or application.

DO NOT allow spray mixture to stand in the tank for more than 18 hours.

Avoid application when significant rainfall is imminent. For early morning applications, foliage should not be wet with dew to the point of runoff.

Consult with recognized forest pest management authority or Valent BioSciences representative regarding appropriate timing and method of application. The timing and number of applications required for effective forest protection will depend upon target pest, target foliage development, pest pressure and larval activity. Applications should coincide with sufficient foliage development (shoot elongation or leaf expansion) to ensure maximum spray deposit. To the extent possible, apply treatments after egg hatch has been completed to assure that the maximum number of larvae are present during the treatment period. In conditions where egg hatch is extended and/or larval development is significantly advanced and/or larval populations are high, use of higher rates and/or additional applications, 5 -10 days apart, is recommended. See the application rate table for pest specific recommendations.

DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

As this pesticide is not registered for the control of pests in aquatic system, DO NOT use to control aquatic pests.

DO NOT apply by any type of irrigation system

RESTRICTED USES

FORESTS and WOODLANDS

NOTICE TO USER

This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

NATURE OF RESTRICTION

This control product is to be used only in the manner authorized; consult local pesticide regulatory authorities about use permits that may be required.

Forestry Use: Ground/Aerial Application for sites greater than 500 ha.

Woodlands Use: Aerial Application for sites 500 ha. or less.

Consult local Transport Canada office regarding air regulations for forest and woodland aerial applications.

Undiluted applications, at the volumes noted in the application rates table, are highly recommended for most labelled pests. When deemed necessary to improve coverage, Bioprotec XHP may be diluted with clean water only and applied at the rates indicated in the application rates table. Total volume of spray material to be applied per hectare depends upon target pest, target foliage, weather, spray equipment and droplet size. Best results are expected when Bioprotec XHP is applied undiluted to dry foliage with well calibrated aircraft and appropriate spray systems capable of delivering droplets in the range of 30-80 microns for coniferous foliage and 50 -150 microns for broadleaf foliage. Federal or provincial officials may recommend inclusion of a water soluble dye for purposes of recording spray deposit.

AERIAL APPLICATIONS

AERIAL APPLICATION INSTRUCTIONS

Apply only by fixed-wing or rotary aircraft equipment that has been functionally and operationally calibrated for the atmospheric conditions of the area and the application rates and conditions of this label. Label rates, conditions and precautions are product specific. Apply only at the rate recommended for aerial application on this label. Where no rate for aerial application appears for the specific use, this product cannot be applied by any type of aerial equipment. Ensure uniform application by using appropriate marking devices and/or electronic guidance equipment.

Undiluted applications, at the volumes noted in the application rates table, are highly recommended for most labelled pests. When deemed necessary to improve coverage, Bioprotec XHP may be diluted with clean water only and applied at the rates indicated in the application rates table. Total volume of spray material to be applied per hectare depends upon target pest, target foliage, weather, spray equipment and droplet size. Best results are

expected when Bioprotec XHP is applied undiluted to dry foliage with well calibrated aircraft and appropriate spray system capable of delivering droplets in the range of 30-80 microns for coniferous foliage and 50-150 microns for broadleaf foliage.

USE PRECAUTIONS

DO NOT allow the pilot to mix product to be loaded onto the aircraft. However, loading of premixed product with a closed system is permitted. It is desirable that the pilot has communication capabilities at each treatment site at the time of application. The field crew and the mixer/loaders must wear the personal protective equipment described in the **PRECAUTIONS** section of this label. When handlers/loaders use closed systems to load the product onto the aircraft, the handler requirement for eye goggles and a NIOSH approved respirator/mask with any N-95, R-95, or P-95 filter for biological products may be waived. When reduced personal protective equipment is worn, the respirator/mask and eye goggles must be immediately available for use in an emergency such as a spill or equipment breakdown. All personnel on the job site must wash hands and face thoroughly before eating and drinking. Protective clothing, aircraft cockpit and vehicle cabs must be washed before reuse. Decontaminate aircraft cockpits and vehicle cabs if contamination occurs.

PRODUCT PRECAUTIONS

Read and understand the entire label before opening this product. If you have questions, call the manufacturer at 1-800-323-9597 or obtain technical advice from the distributor or from your provincial agricultural or forestry representative. Application of this specific product must meet and/or conform to the aerial uses and rates on this label.

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GROUND APPLICATION

For ground application, dilute required amount of Bioprotec XHP with clean water only to the volume required to provide thorough coverage. Wet foliage thoroughly but not to the point of excessive run-off.

For mist blower applications, add the recommended rate of Bioprotec XHP to water, at a mix ratio ranging from 1:25 to 1:65. Recommended maximum volume of spray mixture is 100 Litres per hectare.

For high volume hydraulic sprayers, add the recommended volume of Bioprotec XHP to water at a mix ratio ranging from 1:65 to 1:650. Recommended maximum volume of spray mixture is 1000 Litres per hectare.

DO NOT apply by any type of irrigation system.

APPLICATION RATES

Aerial 1 and Ground Application Forests and Woodlands.

Pest	Litres of product / ha
Gypsy Moth 2	1.2 - 2.0
Eastern Spruce Budworm 3	0.6 - 1.6
Western Spruce Budworm ³	1.2 - 1.6
Jack Pine Budworm 4	0.8 - 1.2
Eastern Hemlock Looper 4	1.2 - 1.6
White Marked Tussock Moth 4	2.0

¹See Restricted Uses for aerial application to forests and woodlands and ground application to forest sites > 500 ha.

² Gypsy Moth: apply first application when larvae are in 2nd and 3rd instar and leaf expansion reaches 40-50%. If egg hatch is extended or re-infestation occurs, 2 or more applications, 7 - 10 days apart, may be required. Use higher rates for heavy infestations.

³ For control of Eastern Spruce Budworm at lower rates and volumes (less than or equal to 0.8 litre/hectare), Bioprotec XHP must be applied using enhanced atomization in order to ensure generation of sufficient spray droplets for impingement on conifer foliage (balsam fir, black spruce). This requires use of Micronaire AU4000 atomizers with appropriate flow rate, and blade angle settings to ensure a minimum rotation. Treat spruce budworms prior to fifth instar larval development, when bud flush/shoot development is sufficient to ensure good deposit on emerging needles. For heavy infestations, higher rates and a second application are recommended. In mountainous terrain, higher rates and volumes may be required to ensure adequate coverage. For forest stands with a high spruce component, in addition to fir, a second application may be necessary, after the spruce buds have opened.

⁴Other pests: Apply after egg hatch is complete, when early instar larvae are feeding on exposed foliage. For broadleaf foliage, apply when leaf expansion reaches 40 - 50%. For coniferous foliage, apply when bud flush/shoot development is sufficient to ensure good deposit. If egg hatch is extended or larval populations are high, higher rates and/or additional applications, 5 -10 days apart, may be required.

RESISTANCE MANAGEMENT RECOMMENDATIONS:

For resistance management, please note that Bioprotec XHP contains a Group 11 insecticide. Any insect population may contain individuals naturally resistant to Bioprotec XHP and other Group 11 insecticides. The resistant individuals may dominate the insect population if this group of insecticides are used repeatedly in the same fields. Other resistance mechanisms that are not linked to site of action but are specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance management strategies should be followed.

To delay insecticide resistance:

- Where possible, rotate the use of Bioprotec XHP and other Group 11 insecticides with different groups that control the same pests in a field.

- Insecticide use should be based on an Integrated Pest Management program that includes scouting, record keeping, and considers cultural, biological and other chemical control practices.
- Monitor treated pest populations for resistance development.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance management and/or integrated pest management recommendation for the specific site and pest problems in your area.
- For further information or to report suspected resistance, contact Valent BioSciences LLC at 1-800-323-9597.

PRECAUTIONS

KEEP OUT OF REACH OF UNAUTHORIZED PERSONNEL. MAY CAUSE SENSITIZATION. CAUTION EYE IRRITANT. Avoid contact with skin, eyes or clothing. Avoid breathing dust/spray mist. Wear a long-sleeved shirt, long pants, waterproof gloves, shoes and socks, eye goggles and a NIOSH-approved respirator with any N-95, R- 95, or P-95 filter for biological products when handling, mixing/loading or applying the product and during all cleanup/repair activities. When applicators use closed systems (e.g. enclosed cabs) the personal protective equipment requirements may be reduced or modified. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

FIRST AID

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

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

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention

TOXICOLOGICAL INFORMATION

Treat symptomatically.

STORAGE:

In order to ensure microbial purity and potency, Bioprotec XHP should be stored in the original container at a temperature between 4°C and 20°C and be used within 18 months from the date of manufacture. Store container upright and keep tightly closed when not in use. After extended storage, shake or stir contents to assure a uniform suspension.

DISPOSAL

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Follow provincial instruction for any required additional cleaning of the container prior to its disposal.
3. Make the empty container unsuitable for further use.
4. Dispose of the container in accordance with provincial requirements.
5. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

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Bioprotec XHP is a registered trademark of AEF Global Inc.