

BIOPROTEC**AQUEOUS BIOLOGICAL INSECTICIDE****FOR USE IN FORESTS, WOODLANDS, RESIDENTIAL AND OTHER TREED AREAS****RESTRICTED****READ THE LABEL BEFORE USING****GUARANTEE:**

Active Ingredient: *Bacillus thuringiensis* subspecies *kurstaki*, strain HD-1 at a potency of 11,400 International Units (IU) per mg., equivalent to 12.7 BIU (Billion International Units) per litre

REGISTRATION NO: 26535 PEST CONTROL PRODUCTS ACT

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

Lot No.

DATE OF MANUFACTURE

This product should be used within 12 months of the Date of manufacture when stored at temperature between 4°C and 15°C.

This product must be used within 4 months of the Date of manufacture when stored at temperature between 16°C and 25°C .

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GENERAL DIRECTIONS FOR USE

Bioprotec Aqueous Biological Insecticide is selectively toxic to some species of lepidopteran larvae. It is a stomach intoxicant only; to be effective, deposits of Bioprotec Aqueous Biological Insecticide 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 Aqueous Biological Insecticide 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 Aqueous Biological Insecticide to the required amount of water in the spray tank. Agitate as necessary to maintain suspension. Use diluted mixtures of Bioprotec Aqueous Biological Insecticide within 72 hours of mixing and recirculate mixture before loading and/or application.

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 AEF Global 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, 3 -10 days apart, is recommended. See dose rate table for pest specific recommendations.

GROUND APPLICATION:

For ground application, dilute required amount of Bioprotec 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 Aqueous Biological Insecticide to water, at a mix ratio ranging from 1:20 to 1:50. Recommended maximum volume of spray mixture is 100 Litres per hectare.

For high volume hydraulic sprayers, add the recommended volume of Bioprotec Aqueous Biological Insecticide to water at a mix ratio ranging from 1:50 to 1:500. Recommended maximum volume of spray mixture is 1000 Litres per hectare.

RESTRICTED USES**FORESTS, WOODLANDS, RESIDENTIAL AND OTHER TREED AREAS****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.

Urban and Residential Use: Aerial Application.

Consult local Transport Canada office regarding air regulations for residential/urban and forestry and woodland applications. Bioprotec Aqueous Biological Insecticide may be used for aerial application in urban and residential areas for treatment of residential and industrial areas and municipal recreational areas (including parks, parkland, vacant lots, shelterbelts, and rights of way under municipal jurisdiction) and other wooded areas including provincial parks, ornamental plantations, seed orchards, tree plantations, tree nurseries, woodlots, cottage areas.

Undiluted applications, at the volumes noted in the dose rates table, are highly recommended for most labelled pests. When deemed necessary to improve coverage, Bioprotec Aqueous Biological Insecticide may be diluted with clean water only and applied at the rates indicated in the dose 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 Aqueous Biological Insecticide 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.

DOSE RATES: Aerial ¹ and Ground Application

Forests, Woodlands, Tree Plantations, Tree Nurseries, Woodlots, Cottage Areas, Urban Areas, Residential Areas, Industrial Areas, Municipal and Provincial Parks, Rights of Way, Ornamental Plantations, Seed Orchards, Shade Trees and Other Treed Areas

| Pest | BIU's per Ha. | Litres per Ha. |
|--|--------------------------|---------------------------|
| Gypsy Moth ² | 30 - 50 | 2.4 - 4.0 |
| Eastern Spruce Budworm ³ | 20 - 30 | 1.6 - 2.4 |
| Western Spruce Budworm ³ | 30 - 40 | 2.4 - 3.2 |
| Jack Pine Budworm ⁴ | 20 - 30 | 1.6 - 2.4 |
| Forest Tent Caterpillar ⁴ | 12 - 20 | 1.0 - 1.6 |
| Eastern Hemlock Looper ⁴ | 30 - 40 | 2.4 - 3.2 |
| Bagworm ⁴ | 20 - 30 | 1.6 - 2.4 |
| Elm Spanworm ⁴ | 20 - 30 | 1.6 - 2.4 |
| Fall Spanworm ⁴ | 20 - 30 | 1.6 - 2.4 |
| Spring & Fall Cankerworm ⁴ | 12 - 20 | 1.0 - 1.6 |
| Satin Moth ⁴ | 50 | 4.0 |
| White Marked Tussock Moth ⁴ | 50 | 4.0 |

¹See Restricted Uses for aerial application to forests, woodlands, residential and other treed areas 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 reinfestation occurs, 2 or more applications, 7 - 10 days apart, may be required. Use higher rates for heavy infestations.

³ Spruce Budworms: Treat 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, 3 -10 days apart, may be required.

PRECAUTIONS:

KEEP OUT OF REACH OF CHILDREN. May cause sensitization. Avoid contact with skin, eyes or clothing. Wear a long sleeved shirt, long pants, water-proof gloves and eye goggles when handling, mixing/loading or applying the product and during all clean-up/repair activities. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

FIRST AID:

IF ON SKIN/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 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.

STORAGE:

Storage at cooler temperature is preferred.

For storage at temperatures between 4°C and 15°C, the product should be used within 12 months of the Date of Manufacture.

For storage at temperatures between 16°C and 25°C, the product should be used within 4 months of the Date of Manufacture.

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 the 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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