

2015-0460
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DISPARVIRUS

NUCLEAR POLYHEDROSIS VIRUS

FOR GYPSY MOTH LARVAE

Forests and Woodlands Management

Aerial Application

RESTRICTED

GUARANTEE: Active Ingredient: At least 1.0×10^{10} Polyhedral Inclusion Bodies (PIBs) of *Lymantria dispar* Nucleopolyhedrovirus per gram

This batch of product contains PIBs/g product.

REGISTRATION NUMBER 24869
PEST CONTROL PRODUCTS ACT

NET CONTENTS: GRAMS

BATCH NUMBER:

DATE OF MANUFACTURE:

This product should be stored at temperatures below 5°C and used within 5 months of the date of manufacture.

READ THE LABEL AND DIRECTIONS FOR USE BEFORE
OPENING, MIXING AND USING

CAUTION – EYE IRRITANT

POTENTIAL SENSITIZER

KEEP OUT OF REACH OF CHILDREN

Natural Resources Canada
Canadian Forest Service
Great Lakes Forestry Centre
1219 Queen Street East
Sault Ste. Marie, Ontario
P6A 2E5
(705) 541-5517

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NATURE OF RESTRICTION: This product is to be used only in the manner authorized. Consult local pesticide regulatory authorities about use permits which may be required.

RESTRICTED USES FORESTRY

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

RESTRICTED USE: For use by or under the direct supervision of the Canadian Forest Service in government sponsored gypsy moth management programs; for aerial application only in forests and woodlands management.

Mode of action: Disparvirus is highly specific to gypsy moth larvae. The active ingredient in Disparvirus is an insect virus that is contained within polyhedral inclusion bodies. These inclusion bodies must be eaten by susceptible larvae to cause infection. The protein of the inclusion bodies dissolves in the insect gut releasing the infectious virus particles which then penetrate gut cells and start the cycle of virus infection. The virus replicates exclusively in the nucleus of susceptible insect cells. Death occurs in about 15 days.

This product is active only on gypsy moth larvae. To prevent defoliation where significant populations of other leaf chewing larvae are present, use of other registered products is necessary.

DIRECTIONS FOR USE

Apply only by fixed wing or rotary wing aircraft equipment which has been functionally and operationally calibrated for the atmospheric conditions of the treatment area and the application rates and conditions of this label. Consult the local Transport Canada office regarding low level flying regulations.

Read and understand the entire label before opening and mixing this product. Apply only at the rate recommended for aerial application.

Disparvirus is recommended for treatment of moderate density populations of gypsy moth. When used precisely according to the dose, timing and application instructions specified below, Disparvirus treatment of moderate gypsy moth populations may result in protection of oak foliage of at least 55-60% and reductions in egg mass density. The extent of egg mass density reduction and the need for retreatment in the following year is influenced by many variables, especially the pre-spray egg mass density and the health of

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the gypsy moth population. Disparvirus is not recommended for use where the goal of aerial application is eradication of gypsy moth. Results of treatment may be unsatisfactory if egg hatch is significantly extended or when pre-spray populations exceed 10,000 egg masses per hectare.

Dose and Timing for Aerial Application

Disparvirus should be applied 2 times, at a dosage of 5 x 10¹¹ PIBs/ha per application (total 10¹² PIBs/ha) in the specified spray mixtures, at an emitted volume of 5.0 L/ha with 3 – 4 days between applications. Timing of application is critical. Larvae should all be in their first instar and actively feeding at the time of first application. At the time of second application, it is expected that about 50% of larvae will have reached their second instar. Oak leaves should be at least 50% expanded at the time of application. Thorough, well distributed spray coverage is necessary to ensure that feeding larvae ingest a lethal dose of Disparvirus. Aircraft fitted with rotary atomizers should be used and droplets should be in the 100 – 150 micron range. Avoid application when significant rainfall is anticipated.

Spray Mixtures

Disparvirus powder may be applied by air using the aqueous spray mixtures specified below. For an emitted volume of 5 litres per hectare, use ___ grams of this batch of Disparvirus per hectare to be treated, so as to obtain a final concentration of 10¹¹ PIBs per litre of spray mix. To prepare 100 litres of spray mix, add _____ grams of this batch of Disparvirus to 10 litres of water and mix well to obtain a consistent, uniform slurry. Use of non-chlorinated water is preferred. If only chlorinated water is available, it must be allowed to stand for 24 hours before mixing with Disparvirus.

Commercial Carrier: Prepare 100 litres of aqueous formulation by adding the 10 litres of Disparvirus aqueous slurry to 90 litres of Carrier 038 (Abbott Laboratories). This spray mix should be discarded if not used within 24 hours of mixing. Although field trials have not been conducted with Disparvirus in this carrier, it is expected to perform as well as the basic spray mix. Consult the manufacturer (Abbott Laboratories) for advice regarding handling, mixing and aerial application of the carrier. Increased viscosity of the carrier may occur at low (<6°C) temperatures.

Basic Spray Mix: To prepare 100 litres of basic spray mix, add a further 62 litres of water and 6.0 kg Orzan LS (I.T.T. Rayonier, Seattle, WA) to the 10 litres of Disparvirus aqueous slurry. MIX THOROUGHLY. The Orzan LS is essential as an ultraviolet protectant. Then add 25 litres of animal feed grade molasses and 2.0 litres of Bond sticker (Loveland Industries, Greeley, CO). This spray mix should be discarded if not used within 12 hours of mixing.

This product should not be mixed with any materials other than those listed on this label.

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

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

PRECAUTIONS: KEEP OUT OF REACH OF CHILDREN.

Disparvirus powder may be a skin and eye irritant. Avoid direct inhalation or contact with eyes, skin or clothing. **Mixers and loaders:** Wear a long sleeved shirt, long pants, shoes plus socks, waterproof gloves and a dust/mist filtering respirator/mask (NIOSH approval number prefix TC-21) or NIOSH approved respirator with any N-95, R-95, P-95 or HE filter for biological products when mixing and loading the product and during clean-up/repair activities. Wash thoroughly with soap and water after handling.

Disparvirus contains insect material and is a potential sensitizer following repeated exposures to the powder.

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/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-

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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.

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

DISPOSAL:

1. Thoroughly rinse the emptied Disparvirus and formulant containers and add rinsings to the spray mixture in the tank.
2. Make empty containers unsuitable for further use.
3. Dispose of the containers in accordance with provincial requirements.
4. For information on the disposal of unused, unwanted product and the clean-up of spills, contact the provincial regulatory agency or the manufacturer.

TOXICOLOGICAL INFORMATION

Treat symptomatically.