

Group 11 Insecticide

DIPEL* 176
Biological Insecticide
Emulsifiable Suspension
RESTRICTED

GUARANTEE:

Bacillus thuringiensis, var. *kurstaki* strain ABTS-351 fermentation
solids, spores, and insecticidal toxins.26.0%

REGISTRATION NO. 20599 PEST CONTROL PRODUCTS ACT

POTENTIAL SENSITIZER

READ THE LABEL AND THE ATTACHED BROCHURE BEFORE USING

Net Contents:

Date of Manufacture: _____

Lot No.:

This product should be used within 12 months of the
date of manufacture

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

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

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 use of this product.

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.

PRECAUTIONS:

KEEP OUT OF REACH OF UNAUTHORIZED PERSONNEL.

MAY CAUSE SENSITIZATION.

CAUTION EYE IRRITANT

Avoid contact with skin, eyes, and clothing. Avoid breathing dust/spray mist. Wear a long sleeved shirt, long pants, waterproof gloves, shoes and socks, eye goggles, and 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 clean-up/repair activities. Applicators may remove gloves, eye goggles and respirators if the design and delivery of the application apparatus reduces exposure to a negligible level (e.g. backpack sprayer with application wands that apply product directly over water surface). Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

FIRST AID	
If on skin or clothing	Rinse skin immediately with plenty of water. Remove contaminated clothing and wash separately before reuse. If irritation occurs and persists or is severe, seek medical attention.
If in eyes	Hold eye open and rinse slowly and gently with water. Remove contact lenses, if present, then continue rinsing eye. If irritation occurs and persists or is severe, seek medical attention.
If inhaled	Move person to fresh air, apply respiration if needed and seek medical attention.
If swallowed	Rinse mouth and throat with copious amounts of water. DO NOT induce vomiting. Promptly contact a physician or poison control centre. DO NOT give anything by mouth to an unconscious person.
General	Seek medical attention if irritation or signs of toxicity occur and persist or is severe. Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION: Treat symptomatically. Product contains a petroleum distillate solvent. Vomiting may cause aspiration pneumonia.

DISPOSAL:

For DiPel 176 packaged in plastic jugs: Do not reuse this container for any purpose. This is a recyclable container and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

- (1) Triple—or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
- (2) Make the empty, rinsed, container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

For DiPel 176 packaged in returnable containers: Do not reuse this container for any purpose. For disposal, this empty container may be returned to the point of purchase (distributor/dealer).

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.

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

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MAY CAUSE SENSITIZATION
CAUTION EYE IRRITANT.

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DIRECTIONS FOR USE

DiPel 176 is a highly selective insecticide for use against listed caterpillars (larvae) of lepidopterous insects. Close scouting and early attention to infestations is highly recommended. Larvae must eat deposits of DiPel 176 to be affected. Always follow these directions:

- Agitate container prior to removal of contents.
- Treat when larvae are young (early instars) before extensive damage occurs.
- Larvae must be actively feeding on treated, exposed plant parts.
- Thorough spray coverage is needed to provide a uniform deposit of DiPel 176 at the site of larval feeding.
- For Spruce Budworm control treat when majority of buds have flushed or shed bud caps.
- Do not mix this product with any materials other than those specified on this label.
- Repeat applications at an interval sufficient to maintain control, usually 3 to 14 days depending on plant growth rate, caterpillar activity, rainfall after treating, and other factors. If attempting to control a pest with a single spray, make the treatment when egg hatch is essentially complete, but before extensive damage occurs.
- DO NOT allow spray mixture to stand in the tank for more than 12 hours. Recirculate mixture before loading and/or application.
- In order to ensure microbial purity and potency, DiPel 176 should be stored in the original container at 15 - 25°C and used within 12 months of the date of manufacture.

After ingesting a lethal dose of DiPel 176, larvae stop feeding within the hour, and will die within several days. Dying larvae move slowly, discolor, then shrivel, blacken and die.

DiPel 176 should be applied by conventional ground and aerial equipment undiluted or with quantities of water sufficient to provide thorough coverage of infested plant parts. The amount of water needed per hectare will depend on weather, spray equipment, and local experience. Fill the mix tank or plane hopper with at least $\frac{3}{4}$ the desired quantity of water. Start the mechanical or hydraulic agitation to provide moderate circulation before adding DiPel 176. Add the required volume of DiPel 176 to the mix tank or plane hopper and continue circulation. Add the remainder of water to the final level. Include rinse water from containers. NEVER ADD DIPEL 176 TO THE MIX TANK BEFORE INTRODUCING AT LEAST $\frac{3}{4}$ THE DESIRED QUANTITY OF WATER. Maintain the suspension while loading and spraying.

DO NOT apply by any type of irrigation system.

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 control of pests in aquatic systems, DO NOT use to control aquatic pests.

Aerial Application Instructions:

Urban Areas: DiPel 176 may be used for aerial application or urban areas for treatment of residential, industrial and municipal recreational areas (including parks, parklands, vacant lots, shelterbelts and rights of way under municipal jurisdiction) by fixed wing or rotary (helicopter) aircraft. Consult the regional office of Transport Canada regarding air regulations.

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.

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 product onto the aircraft, the handler requirement for a NIOSH-approved respirator 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 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 must be washed before reuse. Decontaminate aircraft cockpit 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.

**RESTRICTED USES (FORESTRY AND URBAN AREAS)
 MAXIMUM AERIAL APPLICATION RATES PER TREATMENT**

	Pest	L/ha* (aerial application)
Forests, woodlands tree plantations, tree nurseries, ornamental and shade trees	Forest Tent Caterpillars**	0.8-1.2
	Gypsy Moth	1.2-1.8
	Spruce Budworms	1.2-1.8
	Hemlock Looper***	1.8-2.4

*For pests except Hemlock Looper, mix in a minimum ratio of 50/50 with water up to 10 L per hectare depending on type and density of trees. For SBW, DiPel 176 may also be applied undiluted. For undiluted ultra-low volume applications, optimal droplet Volume Mean Diameters (VMD) are in the range of 40-75 microns. For water diluted applications, droplet VMD in the range of 50-150 microns will provide effective coverage.

**If DiPel 176 is applied to late larval instars and/or extremely heavy populations, one application of DiPel 176 at 1.2 L/ha is recommended.

***Use 1-2 applications, undiluted, beginning at peak first instar. When applying two applications, apply at 1.8 L/ha, one application each at peak first instar and second instar. For the high rate, i.e., 2.4 L/ha, apply single application only at peak first instar.

NON-RESTRICTED USES

MAXIMUM GROUND APPLICATION RATES PER TREATMENT – Thorough coverage is essential for good control. Apply to upper and lower portions of the leaves to run off. Repeat applications will be necessary if a new hatch occurs.

	Pest	L/ha**** (ground application)
Tree plantations, tree nurseries, ornamental and shade trees	Forest Tent Caterpillars	0.8-1.2
	Gypsy Moth	1.2-1.8
	Spruce Budworms	1.2-1.8
	Hemlock Looper	1.8-2.4

****For hydraulic sprayer, apply the specified amount (litres) in 400L to 1500L of water per hectare. For mist sprayers, apply the specified amount (litres) in 100L to 150L of water per hectare.

BENEFICIAL INSECTS

Honeybees foraging treated areas are not harmed by DiPel 176 use.

DiPel 176 does not interrupt the activities of beneficial and predacious arthropods in pest management programs.

RESISTANCE MANAGEMENT:

For resistance management, please note that DiPel 176 contains a Group 11 insecticide. Any insect population may contain individuals naturally resistant to DiPel 176 and other Group 11 insecticides. The resistant individuals may dominate the insect population if this group of insecticides are used repeatedly in the same site. Other resistance mechanisms that are not linked to site of action but are specific for individual chemicals, such as enhanced metabolism, may also exist. The following appropriate resistance management strategies should be followed to delay insecticide resistance:

- Where possible, rotate the use of DiPel 176 or other Group 11 insecticides with different groups that control the same pests in a site.
- 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 recommendations 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
- **Monitor:** Monitor efficacy of DiPel 176 and other Group 11 insecticides used against the targeted pest(s) and record other factors that may influence insecticide performance and/or pest development.

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