

# Mimic<sup>®</sup> 2LV

## INSECTICIDE

**ACTIVE INGREDIENT:**

Tebufenozide:  
3,5-dimethylbenzoic acid 1-(1,1-dimethylethyl)-  
2-(4-ethylbenzoyl)hydrazide ..... 24%  
OTHER INGREDIENTS ..... 76%  
TOTAL ..... 100%

Contains 2 lbs active ingredient per gallon.

EPA Registration No.: 8033-113-73049  
EPA Establishment No.: 5905-GA-01

SKU 60160

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### KEEP OUT OF REACH OF CHILDREN **CAUTION**

**1.0 PRECAUTIONARY STATEMENTS****1.1 HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

Harmful if swallowed, inhaled, or absorbed through the skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Keep and wash PPE separately from other laundry.

**1.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Applicators and other handlers must wear long-sleeved shirt, long pants, shoes and socks, and chemical resistant gloves made of the following waterproof material: nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, barrier laminate, polyvinyl chloride (PVC) ≥ 14 mils, or viton ≥ 14 mils.

**1.3 User Safety Requirements**

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

**1.4****User Safety Recommendations**

Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should 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.

**1.5 Engineering Controls**

Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)]. When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides {40 CFR 170.240(d)(6)}, the handler PPE requirements may be reduced or modified as specified in the WPS.

**1.6****FIRST AID**

**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 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 center or doctor for further 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 the person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

**Have the product container or label with you when calling a poison control center or doctor, or going for treatment.** For additional information on this pesticide product (including health concerns, medical emergencies or pesticide incidents), you may call 1-877-315-9819, twenty-four (24) hours per day seven (7) days per week.

## 1.7 Environmental Hazards

This product is toxic to aquatic invertebrates. Drift and runoff may be hazardous to aquatic organisms in neighboring areas. Under some conditions, this chemical may also have a high potential for runoff into surface water for several weeks or months after application.

Do not cultivate within 10 feet of aquatic areas so as to allow growth of a vegetative filter strip. Drift from applications of this pesticide is likely to result in damage to sensitive aquatic invertebrates in water bodies adjacent to treatment area.

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, except under forest canopy when aerially applied to control forest pests. Do not contaminate water when disposing of equipment wash-waters and rinsate. Do not apply when weather conditions favor drift or runoff from areas treated.

## 1.8 Ground Water Advisory

Mimic 2LV has properties and characteristics associated with chemicals detected in ground water. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

## 2.0 DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying.

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.

### Use Restrictions

- Read and follow all directions and precautions on this product label before using this product.
- Do not apply this product in a way that will contact adults, children, or pets, either directly or through drift. Only protected handlers may be in the treated 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 only 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 over long-sleeved shirt and long pants;
- Waterproof gloves made of nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, barrier laminate, polyvinylchloride (PVC) ≥ 14 mils, or viton ≥ 14 mils; and
- Shoes plus socks

## 3.0 STORAGE AND DISPOSAL

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

**Pesticide Storage:** Keep this product in its tightly closed original container. Keep container closed when not in use. Store in a cool (temperature no less than 32°F), dry, well-ventilated (preferably locked) area that is inaccessible to children, animals, fertilizer, feed and foodstuffs.

**Pesticide Disposal:** Pesticide wastes may be hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to the label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

### CONTAINER HANDLING

**Non-refillable containers 5 gallons or less:** Non-refillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

**Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**Non-refillable containers 5 gallons or larger:** Non-refillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available, or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

#### **Refillable containers 5 gallons or larger**

**Refillable container.** Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available, or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

death of the larvae will take several days to occur, although feeding by the insects generally ceases within 24 hours of ingestion.

#### **Use Rate Determination**

Carefully read, understand and follow label use rates, recommendations and restrictions. Apply the amount specified in the following table with properly calibrated aerial or ground spray equipment.

The low rates may be used for light infestations of the target lepidopterous species and the higher rates for moderate to heavy infestations. Mimic 2LV may be applied in either dilute or concentrate sprays so long as the application equipment is calibrated and adjusted to deliver thorough uniform coverage. Use the specified amount of Mimic 2LV per acre regardless of spray volume used. Prepare only the amount of spray solution required to treat the measured acreage.

#### **Mixing and Compatibility**

Fill the spray tank one-third to one-half full of clean water and slowly pour Mimic 2LV into the spray tank. Maintain agitation in the spray tank during mixing, loading and application. Triple rinse empty container and add rinsate to spray tank.

Mimic 2LV is believed to be compatible with most commonly used agricultural fungicides, insecticides, growth regulators, foliar fertilizers and spray adjuvants. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. If in doubt, mix proportional amounts of all spray ingredients in a test vessel. Shake the mixture vigorously and allow it to stand for fifteen minutes. Rapid precipitation of the ingredients and failure to re-suspend when shaken indicates that the mixture is incompatible and should not be applied.

#### **Application Timing**

The activity of Mimic 2LV is expressed primarily through ingestion by the target larvae. Consequently, the timing of application is dependent on the feeding behavior of the target pest. For internal feeding larvae, application must be made prior to the time that surface feeding occurs. For foliar or surface feeding larvae, application made while active feeding is occurring will be effective.

Re-application may be required to protect new flushes of foliage or rapidly expanding fruit. The reapplication interval will vary depending on how rapidly the crop is growing and the generation time of the target pest. While Mimic 2LV is essentially equally effective against all instars, it is generally good practice to make applications to early instars to avoid the heavy damage that can be inflicted by later instar larvae.

For best results, begin applications when first signs of feeding damage or when threshold levels of moths, eggs or larvae occur. Consult the Cooperative Extension Service, or other qualified professional authorities, to determine the appropriate threshold for application in your area.

## **4.0 PRODUCT INFORMATION**

Mimic® 2LV Insecticide mimics the action of the natural insect hormone 20-hydroxyecdysone, the physiological inducer of the molting and metamorphosis process in insects. Mimic 2LV is highly active against most lepidopterous larvae while having practically no activity at typical use rates against other orders of insects. Mimic 2LV controls lepidopterous larvae through a novel mode-of-action by the induction of a premature lethal molt, which initiates within hours of ingestion of treated crop surfaces. Contact activity has also been observed in some insects. Actual

## 5.0 APPLICATION INSTRUCTIONS

Because Mimic 2LV must be ingested by the larvae, application must be in a manner that assures uniform and thorough coverage. Higher water volume and increased spray pressure generally provide better coverage. Operating an air-blast sprayer at ground speeds greater than 2 mph and making applications in an alternate row middle pattern in tree crops and vines may result in less than satisfactory coverage and poor performance, particularly in conditions of high pest infestation levels, extremely large trees and/or dense foliage. Avoid application under conditions when uniform coverage cannot be assured or when excessive spray drift may occur. A minimum of six hours drying time is required between the completion of application and the onset of precipitation to ensure optimum performance.

**Chemigation:** Do not apply this product through any type of irrigation system.

### Spray Adjuvants

The addition of agricultural adjuvants is not required to maximize the performance, coverage or weatherability of Mimic 2LV. The addition of spray adjuvants is not recommended.

## 6.0 PESTICIDE RESISTANCE MANAGEMENT

For resistance management, Mimic 2LV contains a Group 18 insecticide. Any insect population may contain individuals naturally resistant to Mimic 2LV and other Group 18 insecticides. The resistant individuals may dominate the insect population if this group of insecticides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

To delay insecticide/acaricide resistance, take the following steps:

- Rotate the use of Mimic 2LV or other Group 18 insecticides within a growing season, or among growing seasons, with different groups that control the same pests.

• Use tank mixtures with insecticides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):

- Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
- Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
- When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
- Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
- The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.
- Adopt an integrated pest management program for insecticides use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.

Target Pests	Application Rate (fl oz/acre)	Application Timing	Restrictions
Beet armyworm ( <i>Spodoptera exigua</i> )  Bertha armyworm ( <i>Mamestra configurata</i> )	8 (0.12 lb ai/A)	For early-season applications only to young crop and small plants.  Begin application when first signs of feeding damage appear or when infestations reach threshold levels as defined by Cooperative Extension Service or other qualified professional authorities.	The maximum single application rate is 16 fl oz (0.25 lb ai) per acre.  Do not apply more than the maximum annual application rate of 64 fl oz per acre per calendar year.  Do not make more than four (4) applications per year.  The minimum retreatment interval is 10 days. The Pre-Harvest Interval (PHI) is 14 days.
Beet armyworm ( <i>Spodoptera exigua</i> )  Bertha armyworm ( <i>Mamestra configurata</i> )	8 - 16 (0.12 - 0.25 lb ai/A)	For mid- to late-season applications and to heavier infestations and under conditions in which thorough coverage is more difficult.  Under heavy infestations, continuous moth flights and/or egg masses and larvae in all stages of development, reapplication on a 10- to 14-day schedule will be required to protect new growth until moth flights and/or hits subside.	See <b>Rotational Crop Restrictions</b> in the body of this label.

- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance contact Nisso America Inc. at (212) 490-0350.

### **Rotational Crop Restrictions**

The following rotational crops may be planted at intervals defined below following the final application of Mimic 2LV at the recommended rates for a registered use.

Crop	Re-Cropping Interval
Crops for which tebufenozide use is registered	No restrictions
All other crops	All other crops

**Note:** When using Mimic 2LV with other registered pesticides, always refer to rotational restrictions and precautions on the other product's label and comply with the most restrictive rotational guidelines

### **RAPESEED SUBGROUP, Crop Subgroup 20A**

Including Canola varieties only, including borage, crambe, cuphea, echium, flax seed, gold of pleasure, hare's ear mustard, lesquerella, lunaria, meadowfoam, milkweed, mustard seed, oil radish, poppy

seed, rapeseed, sesame, sweet rocket, and cultivars, varieties and/or hybrids of these.

**Ground Application:** Apply a minimum of 8 gallons per acre by conventional ground equipment to young crop and small plants. Apply a minimum of 10 gallons per acre to densely foliated or difficult-to-cover crop to insure thorough coverage.

**Aerial Application:** Make applications of Mimic 2LV in a minimum of 5 gallons per acre.

### **FORESTS<sup>1,2</sup>, TREES<sup>3</sup> and SHRUBS<sup>4</sup>**

Because Mimic 2LV must be ingested in order to be effective, it is essential that coverage is thorough and uniform. Higher carrier volumes and higher use rates are recommended for very large trees or dense stands and for heavy target pest infestations.

**Ground Application:** Hydraulic ground sprayers should be calibrated to deliver a minimum of 50 gallons per acre. For mist blowers or air blast sprayers, use a minimum of 10 gallons per acre.

**Aerial Application:** Make applications of Mimic 2LV in a minimum of 1 gallon per acre. For pests that feed in the top of the canopy, such as gypsy moths, use a minimum of 1/2 gallons per acre. Higher carrier volumes are recommended when environmental conditions are less than ideal for aerial applications.

TARGET PESTS	APPLICATION RATE (fl. oz/acre)	APPLICATION TIMING	RESTRICTIONS
Bagworm ( <i>Thyridopteryx ephemeraeformis</i> ) Browntail Moth ( <i>Euproctis chrysorrhoea</i> ) Elm Spanworm ( <i>Ennomos subsignaria</i> ) Fall Cankerworm ( <i>Alsophila pometaria</i> ) Fall Webworm ( <i>Hyphantria cunea</i> ) Gypsy Moth ( <i>Lymantria dispar</i> ) Hemlock Looper ( <i>Chambdina fiscellaria</i> ) Jack Pine Budworm ( <i>Choristoneura pinus</i> ) Puss Caterpillar ( <i>Megalopyge opercularis</i> ) Tent Caterpillar Forest, Eastern, Western ( <i>Malacosoma disstria</i> , <i>M. americanum</i> , <i>M. californicum</i> ) Zimmerman Pine Moth ( <i>Dioryctria zimmermani</i> )	4 - 8 (0.06 to 0.12 lb. ai/A)	Apply to early instar (1st, 2nd, or 3rd) larvae. In general, foliage development should be a minimum of 20%.	The maximum application rate is 8 fl oz (0.12 lb ai) per acre per application.  Do not apply more than the maximum annual application rate of 16 fl oz per acre per year.  Do not make more than two (2) applications per year.
Spruce Budworm ( <i>Choristoneura fumiferana</i> and <i>C. occidentalis</i> ) Tussock Moth ( <i>Dasychira pinicola</i> , <i>Lophocampa maculata</i> , <i>Orgya pseudotsugata</i> , <i>O. vetusta</i> )	4 - 8 (0.06 to 0.12 lb. ai/A)	Make applications to 4th to 5th instar larvae that are actively feeding on foliage or are feeding outside the candle caps.	The minimum retreatment interval is 5 days.  Uniform coverage of the foliage is essential to provide maximum protection from defoliation and reduction of egg mass deposition.
Pine Tip Moth ( <i>Rhyacionia frustrana</i> , <i>R. neomexicana</i> , <i>R. buoliana</i> , <i>R. rigidana</i> , <i>R. subtropica</i> )	8.0 (0.12 lb. ai/A)	Apply to early instar (1st to 2nd) larvae after each new foliage flush, in general, at approximately 25% shoot expansion.	

<sup>1</sup> Forests include commercial, private and public forestland, conifer release sites, shelterbelts and windbreaks, and forest plantings.

<sup>2</sup> Not registered for use on forests in the State of California.

<sup>3</sup> Trees include Christmas trees, nurseries and plantations, conifer seed orchards, ornamental and shade trees.

<sup>4</sup> Shrubs include woody shrubs and vines.

## **7.0 TERMS AND CONDITIONS OF USE**

If terms of the following Warranty Disclaimer, Inherent Risks of Use, and Limitations of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. Otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use, and Limitations of Remedies.

### **Warranty Disclaimer**

Valent BioSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. To the extent consistent with applicable law, Valent BioSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

### **Inherent Risks of Use**

It is impossible to eliminate all risks associated with use of this product. Plant injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperature, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Valent BioSciences or the seller. All such risks shall be assumed by buyer.

### **Limitation of Remedies**

To the extent consistent with applicable law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Valent BioSciences' election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or

2. Replacement of amount of product used.

To the extent consistent with applicable law, Valent BioSciences shall not be liable for losses or damages resulting from handling or use of this product unless Valent BioSciences is promptly notified of such loss or damage in writing. In no case shall Valent BioSciences be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer, Inherent Risks of Use, and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Valent BioSciences or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

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