

GROUP

4A

INSECTICIDE



# BELAY<sup>®</sup>

## INSECTICIDE

### FOR USE ON POTATO AND TOBACCO

Active Ingredient	By Wt.
*Clothianidin .....	23.60%
Other Ingredients .....	76.40%
Total .....	100.00%
*(E)-1-(2-chloro-1,3-thiazol-5-ylmethyl)-3-methyl-2-nitroguanidine	

Contains 2.13 lbs active ingredient per gallon  
EPA Reg. No. 59639-150 EPA Est. 39578-TX-01

### KEEP OUT OF REACH OF CHILDREN CAUTION

SEE BELOW FOR ADDITIONAL  
PRECAUTIONARY STATEMENTS.

#### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS & DOMESTIC ANIMALS CAUTION

Harmful if swallowed.

<b>FIRST AID</b>	
<b>If swallowed:</b>	Call a poison control center 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 center or doctor. Do not give anything by mouth to an unconscious person.

<b>HOT LINE NUMBER</b>	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact <b>800-892-0099</b> for emergency medical treatment information.	

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some of the materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart.

**Applicators and other handlers must wear:** long-sleeved shirt and long pants, shoes plus socks and chemical-resistant gloves made of any waterproof material.

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

#### USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- 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.

#### ENVIRONMENTAL HAZARDS

This product is toxic to aquatic invertebrates. Do not apply when weather conditions favor drift from treated areas. Drift and runoff may be hazardous to aquatic organisms in neighboring areas. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate.

This product is toxic to bees exposed to treatment and for more than 5 days following treatment. Do not apply this product to blooming, pollen-shedding or nectar-producing parts of plants if bees may forage on the plants during this time period.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

#### READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.

Do not apply this product in any 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.

### **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 on this label about personal protective equipment (PPE), notification to workers 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 entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry into 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, shoes plus socks, chemical-resistant gloves made of any waterproof material.

### **DISCLAIMER, RISKS OF USING THIS PRODUCT, LIMITED WARRANTY AND LIMITATION OF LIABILITY**

**IMPORTANT: Read the entire Label including this Disclaimer, Risks of Using this Product, Limited Warranty, and Limitation of Liability before using this product. If the terms are not acceptable THEN DO NOT USE THE PRODUCT; rather, return the unopened product within 15 days of purchase for a refund of the purchase price.**

#### **RISKS OF USING THIS PRODUCT**

The Buyer and User (referred to collectively herein as "Buyer") of this product should be aware that there are inherent unintended risks associated with the use of this product which are impossible to eliminate. These risks include, but are not limited to, injury to plants and crops to which this product is applied, lack of control of the target pests or weeds, resistance of the target pest or weeds to this product, injury caused by drift, and injury to rotational crops caused by carryover in the soil. Such risks of crop injury, non-performance, resistance or other unintended consequences are unavoidable and may result because of such factors as weather, soil conditions, disease, moisture conditions, irrigation practices, condition of the crop at the time of application, presence of other materials either applied in the tank mix with this product or prior to application of this product, cultural practices or the manner of use or application, (or a combination of such factors) all of which are factors beyond the control of Valent. The Buyer should be aware that these inherent unintended risks may reduce the harvested yield of the crop in all or a portion of the treated acreage, or

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otherwise affect the crop such that additional care, treatment and expense are required to take the crop to harvest. If the Buyer chooses not to accept these risks, THEN THIS PRODUCT SHOULD NOT BE APPLIED. By applying this product Buyer acknowledges and accepts these inherent unintended risks AND TO THE FULLEST EXTENT ALLOWED BY LAW, AGREES THAT ALL SUCH RISKS ASSOCIATED WITH THE APPLICATION AND USE ARE ASSUMED BY THE BUYER.

Valent shall not be responsible for losses or damages (including, but not limited to, loss of yield, increased expenses of farming the crop or such incidental, consequential or special damages that may be claimed) resulting from use of this product in any manner not set forth on the label. Buyer assumes all risks associated with the use of this product in any manner or under conditions not specifically directed or approved on the label.

#### **LIMITED WARRANTY**

Valent warrants only that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the label, under average use conditions, when used strictly in accordance with the label and **subject to the Risks of Using This Product as described above. To the extent consistent with applicable law AND AS SET FORTH ABOVE, VALENT MAKES NO OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED.** No agent or representative of Valent or Seller is authorized to make or create any other express or implied warranty.

#### **LIMITATION OF LIABILITY**

**To the fullest extent allowed by law, Valent or Seller is not liable for any incidental, consequential, indirect or special damages resulting from the use or handling of this product. The limitation includes, but is not limited to, loss of yield on all or any portion of the treated acreage, increased care, treatment or other expenses required to take the crop to harvest, increased finance charges or altered finance ratings, emotional or mental distress and/or exemplary damages. TO THE FULLEST EXTENT ALLOWED BY LAW, THE EXCLUSIVE REMEDY OF THE BUYER, AND THE EXCLUSIVE MAXIMUM LIABILITY OF VALENT OR SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT SHALL BE THE RETURN OF THE PURCHASE PRICE OF THIS PRODUCT OR, AT THE ELECTION OF VALENT OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

#### **PROMPT NOTICE OF CLAIM**

To the extent consistent with applicable law allowing such requirements Valent must be provided

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notice as soon as Buyer has reason to believe it may have a claim, but in no event later than twenty-one days from date of planting, or twenty-one days from the date of application, whichever is later, so that an immediate inspection of the affected property and growing crops can be made.

To the extent consistent with applicable law if Buyer does not notify Valent of any claims, in such period, it shall be barred from obtaining any remedy.

#### **NO AMENDMENTS**

Valent and Seller offer this product, and Buyer accepts it, subject to the foregoing **Disclaimer, Risks of Using This Product, Limited Warranty and Limitation of Liability**, which may not be modified by any oral or written agreement.

#### **TANK MIXES**

**NOTICE: Tank mixing or use of this product with any other product which is not specifically and expressly authorized by the label shall be the exclusive risk of user, applicator and/or application advisor.**

Read and follow the entire label of each product to be used in the tank mix with this product.

#### **RESISTANCE MANAGEMENT**

*Belay*<sup>®</sup> Insecticide contains clothianidin, which is classified in the Group 4A of insecticide classes. Insect biotypes that have developed insensitivity to Group 4A (neonicotinoid) insecticides can eventually dominate the insect population in the same field. That is most likely to happen when Group 4A insecticides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by *Belay* Insecticide or other Group 4A insecticides.

To delay insecticide resistance consider:

- Avoiding the consecutive use of *Belay* Insecticide or other Group 4A insecticides that have a similar target site of action on the same insect species and/or insect species inadvertently exposed to the applications (non-target pests).
- Using tank mixtures or premixes with insecticides from a different class of chemistry, which must be registered products for the same commodity and use pattern, with different sites of action can help to reduce the generation of resistance.
- Do not make foliar applications of neonicotinoid insecticides (Group 4A) after soil applications of *Belay* Insecticide.
- Utilizing a comprehensive Integrated Pest Management (IPM) program while controlling insect pests.
- When possible screen treated insect populations for insensitivity to Group 4A insecticides.
- Contacting your local extension specialist, certified crop advisors and/or manufacturer for insecticide resistance management or IPM recommendations for the specific site and resistant pest problems.

For further information or to report suspected resistance, you may contact Valent U.S.A. Corporation at 800-682-5368.

#### **RESTRICTIONS AND LIMITATIONS**

*Belay* Insecticide is an insecticide for broad spectrum control of insects infesting potato and tobacco. When applied as directed, *Belay* Insecticide provides excellent and long residual control.

- Regardless of formulation or type of application (seed treatment, soil or foliar), do not apply more than a total of 0.2 lbs active ingredient clothianidin per acre per season for all crops.
- If the maximum season limit of clothianidin as mentioned above has been applied and pest populations require additional treatments, use another registered pesticide that is not in the neonicotinoid class of chemistry.
- Do not apply by air.

## ROTATIONAL CROP PLANT-BACK INTERVALS

Crops Planted	Immediate Plant-Back	30-day Plant-Back	8 Month Plant-Back	12 Month Plant-Back
Potato	Cereal Grains (except Rice), Cotton, Fruiting Vegetables (including Cucurbits), Leafy Vegetables (including Brassica Vegetables), Soybean, Bulb Vegetables, Root and Tuber Vegetables, Rapeseed, Sorghum, Canola, Corn (Field, Pop and Sweet)	Dry Beans, Grasses, Non-grass Animal Feeds, Rice	Sugarcane	Any crops without an earlier plant-back interval

### PLANT TOLERANCE

Neither the manufacturer nor the seller has determined whether or not *Belay* Insecticide can be used safely on all cultivars registered for use. *Belay* Insecticide has been tested on many cultivars with no phytotoxicity observed at label rates. Since all plant species and their varieties and cultivars have not been tested for tolerance, it is recommended that a small number of plants be sprayed to make certain that no phytotoxicity occurs, prior to any large scale application to plants. The end user assumes all risks arising from application of *Belay* Insecticide in a manner inconsistent with its labeling.

*Belay* Insecticide can be tank mixed. However, all plant species and their varieties and cultivars have not been tested with possible tank mix combinations, sequential pesticide treatments and adjuvants and surfactants. Conduct a spray mix compatibility and phytotoxicity trial under local conditions to ensure compatibility prior to any large-scale use.

### MIXING INSTRUCTIONS

1. Begin with clean equipment.
2. Add sufficient clean water to the spray tank for 1/2 of the mix load.
3. Start tank agitation.
4. Add and properly suspend the necessary amount of *Belay* Insecticide according to established tank mix instructions. Agitate to ensure thorough mixing while adding the remaining required water. A high quality wetting agent or other spray adjuvant, approved for use on your crop, may be added to spray solutions according to the manufacturer's use instructions. *Belay* Insecticide must be properly suspended and diluted prior to the addition of any adjuvant. Consult adjuvant label or manufacturer for crop tolerance and safety information when used with this product.
5. Maintain agitation during mixing and application.
6. Apply with properly calibrated spray equipment.

### SPRAY DRIFT MANAGEMENT

Do not allow this product to drift onto neighboring crops or non-crop areas or use in a manner or at a time other than in accordance with label directions because animal, plant or crop injury, illegal residues or other undesirable results may occur.

Applicator is responsible for employing practices that will minimize spray drift at the application site. The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator is responsible for considering all these factors when making decisions. Where states have more stringent regulations, they should be observed.

### APPLICATION PROCEDURES

#### Foliar Application

Select spray nozzles which will provide accurate and uniform spray deposition. Use spray nozzles, which provide medium sized droplets and reduce drift. To help insure accuracy, calibrate sprayer before each use. For information on spray equipment and calibration, consult nozzle manufacturers and/or State and County Extension Service.

Apply *Belay* Insecticide using sufficient water volume to provide thorough and uniform coverage. In situations where a dense canopy exists and/or pest pressure is high, use greater water volumes. The use of a spray adjuvant may improve spray coverage. Do not make applications under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur.

#### Application Through Irrigation Systems (Chemigation)

*Belay* Insecticide alone or in combination with other products which are registered for application through sprinkler irrigation may be applied through irrigation systems. Apply this product only through micro-irrigation (individual spaghetti tube), drip irrigation, overhead irrigation or motorized calibrated irrigation equipment. Do not apply through any other type of irrigation system. Lack of effectiveness can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact your State Extension Service specialist, equipment manufacturer or other experts. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments.

## Using Water from Public Water Systems

- Do not apply *Belay* Insecticide through any irrigation system physically connected to a public water system.

Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days per year. *Belay* Insecticide may be applied through irrigation systems, which may be supplied by a public water system only if the water from the public water system is discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and to top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. Before beginning chemigation, always make sure that the air gap exists and that there is no blockage of the overflow of the reservoir tank.

Any irrigation system using water supplied from a public water system must also meet the following requirements:

### Operating Instructions for All Specific Types of Irrigation Systems

1. The system must be calibrated to uniformly apply the rates specified. If you have questions about calibration, you should contact your State Extension Service specialist, equipment manufacturer or other experts.
2. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back-flow.
3. The pesticide injection pipeline must contain a functional, automatic, quick closing check valve to prevent the flow of fluid back toward the injection pump.
4. The pesticide injection pipeline must also contain a functional, normally closed, solenoid operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
6. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
7. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of

materials that are compatible with pesticides and capable of being fitted with a system interlock.

8. Do not apply when wind speed favors drift beyond the area intended.

### Calibration and Application Instructions

Apply *Belay* Insecticide under the schedule specified in the specific crop use recommendations, not according to the irrigation schedule, unless the events coincide. In general, set the equipment to apply the minimum amount of water per acre. Run the system at 86 to 90% of the manufacturer's maximum rated travel speed.

The following calibration and application techniques are provided for user reference, but do not constitute a warranty of fitness for application through sprinkler irrigation equipment. Check with state and local regulatory agencies for potential use restrictions before applying any agricultural chemical through sprinkler irrigation equipment.

### Center Pivot Irrigation Equipment

1. Use only drive systems that provide uniform water distribution.
2. Do not use end guns when chemigating *Belay* Insecticide through center pivot systems because of non-uniform application.
3. Plug the first nozzle closest to the well head to protect the water source.
4. Determine the size of the area to be treated.
5. Determine the time required to apply 0.1 to 0.25 inches of water over the area to be treated when the system and injection equipment are operated at normal pressures as recommended by the equipment manufacturer. Run the system at 80 to 95% of the manufacturer's rated maximum travel speed.
6. Using water, determine the injection pump output when operated at normal line pressure.
7. Determine the amount of *Belay* Insecticide, and any tank mix partners, required to treat the area covered by the irrigation system.
8. Add the required amount of *Belay* Insecticide, and any tank mix partners, and sufficient water to meet the injection time requirements to the solution tanks. (See "Mixing Instructions" section of this label.)
9. Make sure the system is fully charged with water before starting injection of the *Belay* Insecticide solution. Time the injection to last at least as long as it takes to bring the system to full pressure.
10. Maintain constant agitation in the solution tank during the injection period.
11. Inject the specified amount of *Belay* Insecticide per acre continuously for one complete revolution of the system.
12. Stop the injection equipment after treatment is

complete. Continue to operate the system until the *Belay* Insecticide solution has cleared all of the sprinkler heads.

13. Allow time for all lines to flush the pesticide through all nozzles before turning off irrigation water.

**Solid Set, Hand Move and Moving Wheel Irrigation Equipment**

1. Determine the acreage covered by the sprinklers.
2. Fill injector solution tank with plain water and calibrate the flow rate of the system to deliver the contents of the tank over a 20 to 40 minute time interval.
3. Determine the amount of *Belay* Insecticide required to treat the area covered by the irrigation system.
4. Add the required amount of *Belay* Insecticide, and

any other tank mix partners, into the same quantity of water used to calibrate the injection period. (See "Mixing Instructions" section of this label.)

5. Operate the system at the same pressure and time interval established during the calibration.
6. Inject specified amount of *Belay* Insecticide per acre for either a 20 to 40 minute period at the end of a regular irrigation set, or as a 20 to 40 minute injection as a separate application not associated with a regular irrigation to maximize retention of the insecticide by the foliage.
7. Stop injection equipment after treatment is completed. Continue to operate the system until the *Belay* Insecticide solution has cleared the last sprinkler head. To ensure lines are flushed and free from remaining pesticides, a dye indicator may be injected into the lines to mark the end of the application period.

**POTATO FOLIAR APPLICATION**

<b>Pests</b>	<b><i>Belay</i> Insecticide Application Rates</b>	<b>Special Instructions</b>
Aphids Colorado Potato Beetles Flea Beetles Leafhoppers	2 to 3 fl oz/A (0.033 to 0.05 lb ai/A)	Apply <i>Belay</i> Insecticide when target pest(s) threshold populations are observed. Do not wait until large insect populations have been established.
<ul style="list-style-type: none"> <li>• Do not apply treatments less than 7 days apart.</li> <li>• Do not apply within 14 days of harvest.</li> <li>• Regardless of formulation or type of application (seed piece, soil or foliar), do not apply more than a total of 0.2 lbs active ingredient clothianidin per acre per season.</li> </ul>		

**IN-FURROW OR SIDE DRESS APPLICATION**

<b>Pests</b>	<b><i>Belay</i> Insecticide Application Rates</b>	<b>Special Instructions</b>
Aphids Colorado Potato Beetles Flea Beetles Leafhoppers Potato Psyllids (suppression)	9 to 12 fl oz/A (0.15 to 0.2 lb ai/A)	<p><b>Timing of Application:</b> At planting or as a side-dress on both sides of the row at ground-crack during hilling. With ground-crack/hilling application make certain product is covered with at least 3 inches of soil.</p> <ol style="list-style-type: none"> <li>1. Apply specified rate in sufficient carrier volume to insure uniform application and incorporate into the soil using one of the following methods: In a narrow band centered on the plant row in the bedding operation just prior to planting.</li> <li>2. In-furrow spray at planting. Direct spray in the furrow on the seed pieces or potatoes.</li> <li>3. As a side-dress to both sides of the row or as a spray at ground-crack directly over the row during hilling. Cover immediately with soil.</li> </ol>
<ul style="list-style-type: none"> <li>• Regardless of formulation or type of application (seed piece, soil or foliar), do not apply more than a total of 0.2 lbs active ingredient clothianidin per acre per season.</li> </ul>		

**TOBACCO  
FOLIAR APPLICATION**

Pests	<i>Belay</i> Insecticide Application Rates	Special Instructions
Aphids Flea Beetles	3 to 4 fl oz/A (0.05 to 0.067 lb ai/A)	Apply <i>Belay</i> Insecticide when target pest(s) threshold populations are observed. Do not wait until large insect populations have been established.
Tobacco Budworm (suppression) Tobacco Hornworm (suppression)	4 fl oz/A (0.067 lb ai/A)	<p>Make application using equipment that delivers a coarse droplet spray and low pressure to prevent off target drift. Check calibration periodically to ensure that your equipment is working properly.</p> <p>For suppression of budworms and hornworms, make the first application as soon as eggs hatch and repeat applications as necessary to maintain suppression.</p>
<ul style="list-style-type: none"> <li>• Do not apply more than 12 fl oz (0.2 lb ai) of <i>Belay</i> Insecticide per acre per season.</li> <li>• Do not apply treatments less than 7 days apart.</li> <li>• Do not apply within 14 days of harvest.</li> </ul>		

**STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE**

Store in a dry place away from excessive heat. Do not store near food or feed. Store in original container only. To close package, replace and tighten cap to form an airtight seal.

**PESTICIDE DISPOSAL**

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER DISPOSAL**

Nonrefillable container. Do not reuse or refill the container. Clean container 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. Offer for recycling, if available; otherwise dispose of in a sanitary landfill or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

*Belay* is a registered trademark of Sumitomo Chemical Company, Ltd.

*Products That Work, From People Who Care* is a registered trademark of Valent U.S.A. Corporation

Manufactured for  
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Information contained in this booklet is accurate at the time of printing. Since product testing is a continuous process, please read and follow the directions on the product label for the most current directions and precautionary statements.

Always check with your state to verify state registration status or call 800-6-VALENT (682-5368).



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