



## OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

WASHINGTON, D.C. 20460

June 26, 2024

Amy Plato Roberts  
Director of Regulatory Affairs  
Danstar Ferment AG/ Lallemand Plant Care  
PO Box 990  
Hailey, Idaho 83333

Subject: Non-PRIA (Pesticide Registration Improvement Act) Labeling Amendment – Minor label updates and reformatting to directions for use and chemigation instructions, and addition of several crops  
Product Name: LALNIX ACT DC  
EPA Registration Number: 64137-36  
EPA Receipt Date: 4/6/2024  
Action Case Number: 00561670

Dear Amy Plato Roberts:

The amended labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable.

This approval does not affect any terms or conditions that were previously imposed on this registration. You continue to be subject to existing terms or conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one (1) copy of the final printed labeling before you release this product for shipment with the new labeling. In accordance with 40 CFR § 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR § 152.3.

Should you wish to add/retain a reference to your company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the U.S. Environmental Protection Agency. If the website is false or misleading, the product will be considered to be misbranded and sale or distribution of the product is unlawful under FIFRA section 12(a)(1)(E). 40 CFR § 156.10(a)(5) lists examples of statements the EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the EPA find or if it is brought to our attention that a website contains statements or claims

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substantially differing from statements or claims made in connection with obtaining a FIFRA section 3 registration, the website will be referred to the EPA's Office of Enforcement and Compliance Assurance.

Your release for shipment of this product constitutes acceptance of these terms. If these terms are not complied with, this registration will be subject to cancellation in accordance with FIFRA section 6.

If you have any questions, please contact please contact Andrew Queen by phone at 202-566-1539 or via email at [queen.andrew@epa.gov](mailto:queen.andrew@epa.gov).

Sincerely,

**CODY**

**KENDRICK**

Digitally signed by

CODY KENDRICK

Date: 2024.06.26

10:06:42 -07'00'

Cody Kendrick, Senior Regulator Advisor

Microbial Pesticides Branch

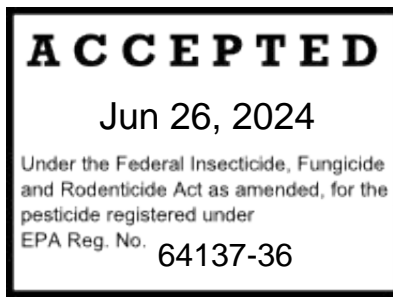
Biopesticides and Pollution

Prevention Division (7511M)

Office of Pesticide Programs

Enclosure: Label

Note: Text in brackets [ ] is optional.



FOR ORGANIC PRODUCTION

# LALNIX<sup>®</sup> ACT DC

Biological Nematicide

For: control of plant-parasitic nematodes in the soil

[Can be Used for Organic Production]

## ACTIVE INGREDIENT:

*Purpureocillium lilacinum* (synonym *Paecilomyces lilacinus*) strain 251\*:.....20.00%

OTHER INGREDIENTS: .....80.00%

TOTAL: .....100.00%

\*Contains a minimum of  $4.7 \times 10^{10}$  viable spores/gram of product.

## KEEP OUT OF REACH OF CHILDREN WARNING / AVISO

*Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.  
(If you do not understand the label, find someone to explain it to you in detail.)*

Please refer to [back panel] [booklet] for additional precautionary statements and directions for use. [Note to reviewer: Location of additional precautionary statements and directions for use will vary between those listed, depending on container type/size.]

See [booklet][side/back panel] for additional precautionary statements.

Batch No.: see printing on bottle

[Expiration Date: see printing on bottle]

Net Contents: [1L]

EPA Establishment Number: \_\_\_\_\_

EPA Registration Number: 64137-36

## Manufactured for :

Danstar Ferment AG / LALLEMAND PLANT CARE

Poststrasse 30

Zug CH-6300 Switzerland

[LALLEMAND LOGO]

[Peel back for instructions. PRESS TO RESEAL]

LALNIX ACT DC; EPA Reg. No. 64137-36

Label amendment (FAST TRACK) to make minor label updates and reformatting to directions for use and chemigation instructions

Version 5a – 4Apr24

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<b>FIRST AID</b>	
<b>If in Eyes:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If on Skin or Clothing:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If Inhaled:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If Swallowed:</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>HOTLINE NUMBER</b> Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For medical emergencies, call the poison control center at 1-800-222-1222.	

## **PRECAUTIONARY STATEMENTS**

### **HAZARDS TO HUMANS AND DOMESTIC ANIMALS - WARNING / AVISO**

Causes substantial but temporary eye injury. Causes skin irritation. Harmful if inhaled, swallowed or absorbed through skin. Do not get in eyes, on skin or on clothing. Avoid breathing spray mist. Wear protective eyewear and gloves. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse. Prolonged or frequently repeated skin contact to the undiluted product may cause allergic reactions in some individuals.

### **PERSONAL PROTECTIVE EQUIPMENT (PPE)**

#### **Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Shoes plus socks
- Nitrile rubber gloves (rate of permeability >480 min.; thickness: 0.4 mm)
- Protective eyewear

Mixers/loaders and applicators must wear a minimum of a NIOSH-approved particulate filtering facepiece respirator with any N, R, or P filter; OR a NIOSH-approved elastomeric particulate respirator with any N, R, or P filter; OR a NIOSH-approved powered air-purifying respirator with an HE filter. (Repeated exposures to high concentrations of microbial proteins can cause allergic sensitization.) Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions are available, use detergent and hot water for washables. Keep and wash PPE separately from other laundry.

<b>USER SAFETY RECOMMENDATIONS</b>
<ul style="list-style-type: none"> <li>• Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.</li> <li>• 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.</li> </ul>

## ENGINEERING CONTROLS

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.607(d) and (e)], the handler PPE requirements may be reduced or modified as specified in the WPS. **IMPORTANT:** When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for “applicators and other handlers” and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

## ENVIRONMENTAL HAZARDS

This pesticide is toxic to aquatic invertebrates. Runoff may be hazardous to aquatic organisms in water adjacent to treated areas. 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. Do not contaminate water when disposing of equipment washwaters or rinsate.

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## DIRECTIONS FOR USE

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**It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read the entire label before using this product.** 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 State or Tribal agency responsible for pesticide regulation. [For use only as described on the labeling. Not for isolation or deformulation. Do not culture.]

AGRICULTURAL USE REQUIREMENTS
<p>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), 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.</p> <p>Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.</p> <p><b>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:</b></p> <ul style="list-style-type: none"><li>• Coveralls</li><li>• Nitrile rubber gloves (rate of permeability &gt;480 min.; thickness: 0.4 mm)</li><li>• Shoes plus socks</li><li>• Protective eyewear</li></ul> <p><b>EXCEPTION:</b> If the product is soil incorporated or soil injected, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.</p>



## PRODUCT INFORMATION

### LALNIX ACT DC:

- is a water dispersible concentrate formulation containing the fungus *Purpureocillium lilacinum* (synonym: *Paecilomyces lilacinus*) strain 251, which parasitizes plant-parasitic nematode species such as Root-knot nematodes (*Meloidogyne* spp.), Cyst nematodes (*Heterodera* spp.) and other nematode species (*Pratylenchus* spp.; *Tylenchulus semipenetrans*; *Ditylenchus* spp.) in field and greenhouse crops.

- is intended for use as part of an Integrated Pest Management (IPM) system. When used as part of a complete pest management program, LALNIX ACT DC can reduce crop damage by plant-parasitic nematodes.

## USE RESTRICTIONS

Do not tank mix LALNIX ACT DC with pesticides, strong acids, bases or adjuvants that can reduce the viability of *Purpureocillium lilacinum* spores. Consult your manufacturer representative for information on suitable tank mix partners. Refer to the specific use directions and restrictions in each Crop, Crop Group or Crop Subgroup table.

## MIXING INSTRUCTIONS

- Determine the volume of water needed for application according to the label recommendations.
- Fill the spray / irrigation tank to the desired volume with clean water. Maintain agitation while slowly adding the specified amount of LALNIX ACT DC. Avoid any unnecessary intake of air into the broth (e.g. do not use the induction hopper).
- For best results prepare the mixture immediately before use.

## Compatibility testing and tank mix partners

When mixing with LALNIX ACT DC, follow the most restrictive labeling. The physical compatibility of LALNIX ACT DC with all potential tank-mix partners has not been fully investigated. If tank mixing with other products is desirable, conduct a jar test with the volumes and rates typically used in agricultural application. Using a small container of water, add the proportionate amounts of the products: wettable powders and water-dispersible granular products first, then liquid flowables, and emusifiable concentrates last. After thoroughly mixing, let stand for at least 15 minutes. Look for signs of separation, globules, sludge, flakes, or other precipitates. Physical compatibility is indicated if the combination remains mixed or can be remixed readily. Consult your Lallemand Plant Care representative for more information about compatibility with other products

## APPLICATION INSTRUCTIONS

- Protection of plant roots from nematode infestation can be best achieved if LALNIX ACT DC is applied using irrigation or mechanical methods of incorporation that concentrate spores in the plant root zone.
- Avoid using application water volumes or mechanical methods of incorporation that result in distribution of spores outside the plant root zone.
- If the product is drenched using spraying or other equipment, the product is applied soil-directed below canopy without nozzles or with designated drench nozzles (“fertilizer nozzles”) and with low pressure [at the mentioned safe dilution of at least 0.125 % v/v in water]. This use pattern is needed to ensure efficacy.
- Soil should remain moist after application of LALNIX ACT DC to allow spores to germinate and develop.
- If water volumes at application are too low to incorporate the LALNIX ACT DC into the soil, then follow up with normal water drench using irrigation systems. Ensure that LALNIX ACT DC is properly distributed around and through the root system of the treated plant after the product has been drenched into the soil. Water is used simply as the carrier to deliver the fungal spores into the rhizosphere and the amount can vary with different soil types. Insufficient water will not deliver the product to the root zone, whereby too much drench water after application can wash the product out of the relevant root zone.

## Chemigation

Apply LALNIX ACT DC only through drip (trickle) irrigation (including micro-irrigation through spaghetti tubes or individual tubes) or sprinkler irrigation (impact or micro-sprinklers, overhead boom, solid set, center pivot, lateral move, end tow, side (wheel)-roll, center pivot, traveler, big gun, or hand move); or through gravity flow systems such as flood, furrow, or border irrigation either before planting, at planting, or to the planted crop/use site at the labeled rates. If applied in this manner, irrigate with enough water to saturate the soil to the depth of the root zone. Addition of an approved soil wetting agent at the manufacturer’s specified mix rate may enhance penetration of spores to the rooting zone. For information on which adjuvants and pesticides can be mixed with LALNIX ACT DC without harming the

beneficial fungus it contains, contact your Technical Sales Representative or the Manufacturer. Do not apply LALNIX ACT DC through any irrigation systems other than those specified above.

**Uniform Water Distribution and System Calibration:**

The chemigation system must provide uniform distribution of treated water. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. The chemigation system must be calibrated to uniformly apply the rates specified in crop-specific label sections. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

**Chemigation Monitoring:**

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 should the need arise.

**Required System Safety Devices:**

- 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 backflow.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 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.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 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.
- 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.
- Do not apply when wind speed favors drift beyond the area intended for treatment.

**Using Water from Public Water Systems:**

- Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- 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 out of the year.
- Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back-flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be 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 the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- The pesticide injection pipeline must contain a functional automatic quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must 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.

- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 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.
- Do not apply when wind speed favors drift beyond the area intended for treatment.

#### **Flushing and Cleaning the Chemical Injection System:**

At the end of the application period, allow time for all lines to flush the pesticide through all nozzles or emitters before turning off irrigation water. To ensure the lines are flushed and free of pesticides, a dye indicator may be injected into the lines to mark the end of the application period. In order to apply pesticides accurately, the chemical injection system must be kept clean and free of chemical or fertilizer residues and sediments. Refer to your owner's manual or ask your equipment supplier for the cleaning procedure for your injection system.

#### **Pesticide Application Using Drip (Trickle) and Micro-Irrigation:**

- 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.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 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.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 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.
- 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.
- Apply only when the irrigation is soil directed, and the heights of the nozzles are below the canopy.
- Apply the entire treatment during the first 1/3 of the total irrigation.
- Mix LALNIX ACT DC in the supply tank to a concentration appropriate to cover the area to be treated.
- Agitation is required for mixing and maintaining the suspension of the spores of the active agent in the injection solution.

#### **Pesticide Application Using Sprinkler Irrigation:**

- 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.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 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.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 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.



- 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.
- Do not apply when wind speed favors drift beyond the area intended for treatment.
- Apply the entire treatment during the first 1/3 of the total irrigation.
- Mix LALNIX ACT DC in the supply tank to a concentration appropriate to cover the area to be treated.
- Agitation is required for mixing and maintaining the suspension of the spores of the active agent in the injection solution.

#### **Flood or Furrow Chemigation:**

- Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential of water source contamination from the backflow if water flow stops.
- Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:
  - 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.
  - The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
  - 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.
  - The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
  - 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.
  - 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.
- Mix LALNIX ACT DC in the supply tank to a concentration appropriate to cover the area to be treated.
- Agitation is required for mixing and maintaining the suspension of the spores of the active agent in the injection solution.

#### **SPRAY DRIFT MANAGEMENT**

The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator is responsible for considering all of these factors when making application decisions. Consult the local Cooperative Extension for additional information. Avoiding spray drift is the responsibility of the applicator.

**Droplet Size** - Use the largest droplet size that provides sufficient control and coverage. Higher flow nozzles and lower pressures will produce larger droplets and minimize drift. Low drift and air induction nozzles will provide lower drift potential. Use larger droplet size when applying in hot, dry conditions (droplet evaporation is higher under these conditions, thus reducing the effective droplet size and increasing drift potential).

**Wind Speed** - Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. Applications during gusty or calm wind conditions should be avoided. However, many factors, including droplet size, canopy and equipment specifications determine drift potential at any given wind speed. For applications made in-furrow or below soil-level, wind speed restrictions are not applicable.

**Temperature Inversions** - Drift potential is high during temperature inversions and applications should be avoided under these conditions. Temperature inversions are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog. If fog is not present, inversions can also be identified by the movement of smoke or dust from a ground source -- smoke or dust that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion.

**Sensitive Areas** - When applying adjacent to residential areas, water bodies, habitats known to have threatened or endangered species, or non-target crops, drift can be minimized to these areas by making application when the wind direction is away from these areas. Where States or local authorities have more stringent regulations, they must be observed.

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#### SPECIFIC CROP DIRECTIONS

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#### FOR CONTROL OF CROP DAMAGE CAUSED BY THE FOLLOWING PESTS:

Target Pests	
Awl nematodes ( <i>Dolichodorus</i> species)	Ring nematodes ( <i>Criconemoides</i> , <i>Criconemella</i> and <i>Mesocriconema</i> species)
Burrowing nematode ( <i>Radopholus similis</i> )	Root-knot nematodes ( <i>Meloidogyne</i> species)
Citrus nematode ( <i>Tylenchulus semipenetrans</i> )	Spiral nematodes ( <i>Helicotylenchus</i> and <i>Rotylenchus</i> species)
Cyst nematodes ( <i>Heterodera</i> and <i>Globodera</i> species)	Stem nematode ( <i>Ditylenchus dipsaci</i> )
False root-knot nematodes ( <i>Nacobus</i> species)	Sting nematode ( <i>Belonolaimus longicaudatus</i> )
Lance nematodes ( <i>Hoplolaimus</i> species)	Stubby root nematodes ( <i>Trichodorus</i> and <i>Paratrichodorus</i> species)
Lesion nematodes ( <i>Pratylenchus</i> species)	Stunt nematodes ( <i>Tylenchorhynchus</i> species)
Reniform nematode ( <i>Rotylenchulus reniformis</i> )	

#### FOR USE ON THE FOLLOWING CROP GROUPS, CROPS AND USE SITES:

**[Crop Group 5-16:] Brassica (Cole) leafy vegetables:** Broccoli; Broccoli raab (rapini); Brussels sprouts; Cabbage; Cauliflower; Cavalo broccolo; Chinese broccoli (gai lon); Chinese cabbage (bok choy and napa); Chinese mustard cabbage (gai choy); Collards; Kale; Kohlrabi; Mizuna; -Mustard spinach; Rape greens; and other brassica leafy vegetable crops. Includes cultivars, varieties and/or hybrids of these.

**[Crop Group 9:] Cucurbit vegetables:**

Watermelon; Cantaloupe; Honeydew melon; Muskmelon; Cucumber; Gherkin; Watermelon; Pumpkin; Gourd, edible; Balsam apple; Balsam pear; Bitter melon; Chayote (fruit); Chinese cucumber; Chinese waxgourd; Citron melon; Summer squash; Winter squash; and other cucurbit vegetable crops. Includes cultivars, varieties and/or hybrids of these.

**[Crop Group 8:] Fruiting vegetables:** Tomato; Tomatillo; Pepper; Eggplant; Groundcherry; Pepino; and other fruiting vegetable crops. Includes cultivars, varieties and/or hybrids of these.

**[Crop Group 19:] Herbs and Spices:** Angelica; Balm; Basil; Borage; Burnet; Camomile; Catnip; Chervil (dried); Chive; Chinese chive; Clary; Coriander (leaf); Costmary; Culantro (leaf); Curry (leaf); Dill (dillweed); Horehound; Hyssop; Lavender; Lemongrass; Lovage (leaf); Marigold; Marjoram; Nasturtium; Parsley (dried); Pennyroyal; Rosemary; Rue; Sage; Savory (summer and winter); Sweet bay; Tansy; Tarragon; Thyme; Wintergreen; Woodruff; Wormwood; Allspice; Anise (seed); Anise (star); Annatto (seed); Caper buds; Caraway; Black caraway; Cardamom; Cassia buds; Celery seed; Cinnamon; Clove buds; Coriander (seed); Culantro (seed); Cumin; Dill (seed); Fennel (common); Florence fennel (seed); Fenugreek; Grains of paradise; Juniper berry; Lovage (seed); Mace; Mustard (seed); Nutmeg; Pepper (black and white); Poppy (seed); Saffron; Vanilla; other herb crops and other spice crops. Includes cultivars, varieties and/or hybrids of these.

**[Crop Group 4-16:] Leafy vegetables (except Brassica vegetables)::** Endive; Escarole; Cabbage, seakale; Spinach (including New Zealand and Vine); Cress, garden; Cress, upland; Arugula; Lettuce, head and leaf; Celery; Corn salad; Radicchio (red chicory); Rhubarb; Amaranth (leafy amaranth, tampala); Cardoon; Chinese celery; Celtuce; Chervil; Chrysanthemum (edible-leaved and garland); Dandelion; Dock (sorrel); Florence fennel (finocchio); Orach; Parsley; Puslane (garden and winter); Swiss chard; and other leafy vegetable crops. Includes cultivars, varieties and/or hybrids of these.

**[Crop Group 3-07:] Bulb vegetables:** Onion (bulbs of common, Chinese, pearl, potato onion, Beltsville bunching, fresh, green, macrostem, tree tops); Shallot, bulb; Welsh onion (tops); Chinese chive, fresh leaves; Chive, fresh leaves; Leek; Daylily, bulb; Fritillaria, bulb; Garlic (bulbs of common, great-headed, Serpent), Lily, bulb; Elegans hosta; Fritillaria (leaves); Kurrat; Leek (*Allium, porrum*, Lady's, Wild); Shallot, fresh leaves; and other bulb vegetable crops. Includes cultivars, varieties and/or hybrids of these.

**[Crop Group 1:] Root and Tuber vegetables:** Beet (garden and sugar); Carrot; Cassava (bitter and sweet); Ginger; Horseradish; Parsnip; Potato; Radish; Rutabaga; Turnip; Arracacha; Arrowroot; Artichoke (Chinese and Jerusalem); Burdock; Canna; Celeriac; Chayote; Chervil, turnip-rooted; Chicory; Chufa; Dasheen (taro); Ginseng; Leren; Parsley, turnip-rooted; Salsify (oyster plant); Salsify (black and Spanish); Skirret; Sweet potato; Tanier; Tumeric; Turnip; Yam, true; Yam bean (jicama, manioc pea); and other root and tuber vegetable crops. Includes cultivars, varieties and/or hybrids of these commodities.

**[Crop Group 13-07:] Berry and Small Fruits (excluding strawberry):** Blackberry; Blueberry; Cranberry<sup>1</sup>; Currant; Elderberry; Gooseberry; Grape; Huckleberry; Loganberry; Lingonberry and Raspberry. Includes cultivars, varieties and/or hybrids of these.

**[Crop Group 10-10:] Citrus fruits:** Citrus Trees, Orange, Lemon, Mandarin, Clementine; Tangerine. Includes cultivars, varieties and/or hybrids of these.

**[Crop Group 11-10]: Pome Fruits:** Apple; Loquat; Pear; Quince. Includes cultivars, varieties and/or hybrids of these.

**[Crop Group 12-12:] Stone Fruits:** Apricot; Cherry; Peach; Nectarine; Plum. Includes cultivars, varieties and/or hybrids of these.

**[Crop Group 14-12:] Tree nuts:** Almond; Beechnut; Cashew; Chestnut; Hazelnut; Hippophaes; Macadamia nut; Pecan; Pistachio and Walnut. Includes cultivars, varieties and/or hybrids of these.

**[Crop Group 24:] Tropical and Subtropical Fruit:** Avocado; Banana; Papaya; Passionfruit; Pineapple; Plantain and Pomegranate. Includes cultivars, varieties and/or hybrids of these.

**Miscellaneous crops:** Artichoke, Asparagus, Coffee, Cotton, Hemp, Hops, Indoor- or outdoor-grown ornamentals, cut flowers and ornamental bulbs, Peanut, Strawberry, Tobacco, Turf

## USING THE FOLLOWING METHODS OF APPLICATION AND RATES:

<b>Application to field soils pre-plant</b>
<p><b>10.25 fl oz/acre</b> using any of the following methods:</p> <ul style="list-style-type: none"><li>• Apply to soil as a banded application, broadcast application or soil injection and incorporated into the planting bed during the bedding operation. If the product is drenched using spraying or other equipment, the product is applied soil-directed below canopy without nozzles or with designated drench nozzles (“fertilizer nozzles”) and with low pressure [at the mentioned dilution of at least 0.125 % v/v in water]. This use pattern is needed to assure efficacy.</li><li>• Chemigation into root-zone.</li><li>• Apply when soil temperature at a depth of 4 inches is consistently 60 degrees F.</li><li>• Application should be made within 14 days prior to planting the crop.</li><li>• Do not apply LALNIX ACT DC within 14 days after a soil fumigant has been used.</li></ul>
<b>Application at plant</b>
<p><b>10.25 fl oz/acre</b> using any of the following methods:</p> <ul style="list-style-type: none"><li>• Chemigation into root-zone.</li><li>• In-furrow application.</li><li>• Transplant water drench.</li></ul> <p><b>Transplant Tray Drench:</b> 0.25 to 0.625 fl oz/100 gal water. Transplant tray dipping /drench prior to or at transplanting.</p>
<b>Application to field soils post-plant</b>
<p><b>10.25 fl oz/acre</b> using any of the following methods:</p> <ul style="list-style-type: none"><li>• Chemigation into root-zone.</li><li>• Post-plant drench, or hill drench.</li><li>• <b>Re-apply on a 4- to 6-week interval depending on pest pressure.</b></li></ul>

**Application to full or partial orchards or vineyards**

10.25 fl oz/acre using any of the following methods:

- At- or post-plant soil drench.
- Chemigation into root-zone.
- For optimum results with chemigation application, apply to newly planted trees/vines or those previously trained to drip, trickle or micro-sprinkler irrigation.
- Re-apply on a 2- to 4-month interval depending on pest pressure.

**Application to individual trees or vines**

8.0 fl oz/100 gal water

- Apply as an at-plant or post-plant soil drench.
- 100 gallons of mixture is sufficient to treat approximately 10,000 sq ft of soil surface area around the trunk of individual trees or vines.
- Re-apply on a 2- to 4-month interval depending on pest pressure.

**Application to bananas<sup>2</sup> and plantains<sup>2</sup> at plant**

For 190 plants: Mix 2.5 fl oz/100 gal water

- Apply 1.0 quart of the mixture into the planting hole just before planting. Apply another 1.0 quart around the base of each plant immediately after planting  
or
- Use conventional ground application equipment or knapsack sprayers for application. Water in with standard irrigation equipment, or apply before or during rainfall.

**Application to established bananas<sup>2</sup> and plantains<sup>2</sup>**

For 190 plants: Mix 2.5 fl oz/25 gal water

- Apply the mixture in a one-foot radius around daughter suckers using conventional ground application equipment  
or
- Apply through a micro-sprinkler irrigation system.
- Re-apply on a 4-month interval.

<sup>1</sup>Do not apply to flooded fields.

<sup>2</sup>Not registered for use in California.

**STORAGE AND DISPOSAL**

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

**Pesticide Storage**

Store in original container in a cool, dry place. Avoid overheating and avoid exposure to direct sunlight.

[LALNIX ACT DC contains viable fungal spores and its shelf life is dependent on storage conditions. The minimum guaranteed shelf life from the date of manufacture is 6 months when stored at or below 30°C and 2 years when

stored at or below 20°C. Short-term exposure to higher temperatures does not affect the above-mentioned shelf life, however, avoid prolonged and repeated exposure to temperatures up to 40°C for longer than 1 week (e.g. during transport).]

[It is recommended to use the complete contents of LALNIX ACT DC at once. If it is not possible, use the open LALNIX ACT DC container within 6 weeks and store it in its original container below 20°C.]

#### **Pesticide Disposal**

To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

#### **Container Handling**

Non-refillable container. Do not reuse or refill this container. Triple 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 puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. If burned, stay out of smoke.

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### **CONDITIONS OF SALE AND LIMITATIONS OF WARRANTY AND LIABILITY**

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Lallemand Specialties Inc. / LALLEMAND PLANT CARE warrants only that this product conforms to the product description on this label and is reasonably fit for the purposes set forth in the Directions for Use when used in accordance with them. However, ineffectiveness or other unintended consequences may result because of such factors as the use, storage or handling of the product contrary to the label instructions, all of which are beyond the control of Lallemand Specialties Inc. / LALLEMAND PLANT CARE. To the extent consistent with applicable law, Lallemand Specialties Inc. / LALLEMAND PLANT CARE shall not be liable for indirect or consequential damages resulting from the use, storage or handling of this product. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, LALLEMAND SPECIALTIES INC. / LALLEMAND PLANT CARE MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

Optional Label Claim specific to supplemental distributor registration 64137-35-70051:

