POSTED PROPOSED TO REGISTER IN VOLUME 2025-40

PUBLIC REPORT IN SUPPORT OF PROPOSED DECISION
(Label Amendment)

Description of the Project

Tracking ID No.:	307350
Product Name:	LALGUARD M52 GR
Applicant:	Danstar Ferment AG/LALLEMAND PLANT CARE
EPA Reg. No.:	64137-31
Active Ingredient (with Percent):	*Metarhizium brunneum* (formerly known as *Metarhizium anisopliae*) strain F52 (2.0%)
DPR Chemical Code:	6002

Product Use Information (see current product label below for full description):
Microbial insecticide to control thrip pupae, vine weevils (larvae), and ticks. For use in greenhouses and nurseries, and on urban and suburban residential and institutional lawns and landscape perimeters. Can be applied to onions; celery, lettuce, and spinach; peppers and tomatoes; grapes, strawberry, cranberry, raspberry, and blackberry; ornamental plants and grasses, shrubs, vines, trees, and bedding plants; and turf.

Danstar Ferment AG/LALLEMAND PLANT CARE submitted an application to the Department of Pesticide Regulation (DPR) to accept an amended label for the above pesticide product (the project). This pesticide product is currently registered for use in California. The above applicant requested the following amendments to this pesticide product label:

- Correct the minimum number of colony forming units (CFU/g) from 6.0×10^8 to 9.0×10^8
- Add instructions specific to soil applications
- Expand onion to include use on the added root, tuber, and bulb vegetables
- Expand celery, lettuce, and spinach to include use on the added leafy vegetables, *Brassica* (cole) leafy vegetables, and other vegetables
- Expand peppers and tomatoes to include use on the added fruiting vegetables
- Expand grapes, strawberry, cranberry, raspberry, and blackberry to include use on the added berries and small fruits
- Expand ornamental plants and grasses: shrubs, vines, trees, bedding plants, etc. to include the added flowers, cut flowers, bedding plants, foliage and potted plants, ornamentals and trees, shrub seedlings, and shade house and outdoor nursery crops
- Add use on hemp to control thrips (pupae) and aphids
- Expand turf: institutional, residential lawns (urban and suburban) to include turf grown for use as seed and sod, lawns (urban), landscapes, turf greens, sports fields, and municipal and institutional turf
- Make minor typographical changes

This is a proposed decision to accept the proposed amendments to this label (registration action). If DPR accepts the amended label, it immediately becomes the latest accepted label in California

for the currently registered pesticide product. However, DPR cannot give its final approval for this label amendment in California until the label amendment is officially accepted by the U.S. Environmental Protection Agency (U.S. EPA). U.S. EPA has already accepted this label amendment. The currently registered label and label with the proposed amendments can be viewed below.

Overview of DPR's Pesticide Registration Program and Scientific Evaluation Process

Before a substance is registered as a pesticide for the first time in California, DPR is required to perform a thorough evaluation and to have a program to continuously evaluate registered pesticides to eliminate from use in the state any pesticide that endangers the agricultural or non-agricultural environment. (Food & Agr. Code (FAC) § 12824.) DPR requires the applicant/registrant to submit all data required by U.S. EPA regulations governing pesticide registration, reregistration, and classification adopted in Title 40, Code of Federal Regulations (40 CFR) under the authority contained in the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

Data Requirements by Pesticide Product Type

1. Conventional

Human Health Toxicology	40 CFR Part 158.500-158.510; FAC §§13121-13135
Human Exposure *(if applicable)*	40 CFR Part 158.1000-158.1070; 3 CCR §6176, §6177, §6183
Product Chemistry	40 CFR Part 158.300-158.355; 3 CCR §6188
Environmental Fate *(if applicable)*	40 CFR Part 158.1300; FAC §13143
Spray Drift *(if applicable)*	40 CFR Part 158.1100; 3 CCR §6192
Product Performance	40 CFR Part 158.400; 3 CCR §6186
Phytotoxicity *(if applicable)*	40 CFR Part 158.660; 3 CCR §6192
Ecotoxicology *(if applicable)*	40 CFR Part 158.630; 3 CCR §6187, §6192

2. Antimicrobial Products

Human Health Toxicology	40 CFR Part 158.2230; FAC §§13121-13135
Human Exposure *(if applicable)*	40 CFR Part 158.2260-158.2270; 3 CCR §6176, §6177, §6183
Product Chemistry	40 CFR Part 158.300-158.355
Environmental Fate *(if applicable)*	40 CFR Part 158.2280; FAC §§13141-13152
Product Performance	40 CFR Part 158.2220; 3 CCR §6186
Phytotoxicity *(if applicable)*	40 CFR Part 158.2250; 3 CCR §6192
Ecotoxicology *(if applicable)*	40 CFR Part 158.2240; 3 CCR §6187, §6192

3. Biochemical Products

Human Health Toxicology	40 CFR Part 158.2050; FAC §§13121-13135

Human Exposure *(if applicable)*	40 CFR Part 158.2050; 3 CCR §6176, §6177, §6183
Product Chemistry	40 CFR Part 158.2030
Environmental Fate *(if applicable)*	40 CFR Part 158.2060; FAC §§13141-13152
Product Performance	40 CFR Part 158.2070; 3 CCR §6186
Phytotoxicity *(if applicable)*	40 CFR Part 158.2060; 3 CCR §6192
Ecotoxicology *(if applicable)*	40 CFR Part 158.2060; 3 CCR §6187, §6192

4. Microbial Products

Human Health Toxicology	40 CFR Part 158.2140; FAC §§13121-13135
Product Chemistry	40 CFR Part 158.2120
Environmental Fate *(if applicable)*	40 CFR Part 158.2150; FAC §13143
Product Performance	40 CFR Part 158.2160; 3 CCR §6186
Phytotoxicity *(if applicable)*	40 CFR Part 158.2150; 3 CCR §6192
Ecotoxicology *(if applicable)*	40 CFR Part 158.2150; 3 CCR §6187, §6192

Applicants/registrants must also comply with California specific data requirements contained in Title 3 California Code of Regulations (3 CCR) sections 6159 through 6192, when applicable. Pursuant to 3 CCR section 6200, DPR may waive certain required data for a specified period and conditionally register a product while the data are being developed. However, DPR will not waive human health toxicology data. In addition to the data requirements found in regulation, two statutes—the Birth Defects Prevention Act (BDPA) and the Pesticide Contamination Prevention Act (PCPA)—require the submission of additional data in California. BDPA requires a group of mandatory health effects studies designed to assess the risk of pesticide induced abortions, birth defects, and infertility. PCPA requires the submission of certain information about agricultural use pesticides to allow for the assessment of the potential risk of the pesticide to pollute groundwater.

Pesticide product data requirements, both federally and in California, change over time. Prior to registration, each pesticide product is required to meet all applicable U.S. EPA and DPR data requirements for the pesticide product type. California data requirements are set forth in the Food and Agricultural Code and DPR's governing regulations. Applicants/registrants have the option of submitting the data themselves, or referencing appropriate data previously submitted to DPR or a similar pesticide product(s) previously registered by DPR subject to the same data requirements. In reaching a proposed decision to register or deny registration of a pesticide product, DPR evaluates the proposed registration action and relevant supporting data.

If DPR's review and evaluation of the proposed pesticide labeling and data supports a conclusion that a significant adverse impact cannot be avoided or adequately mitigated, DPR cannot register the product unless the Director makes a written statement of overriding conditions—stating that the anticipated benefits of the product registration clearly outweigh the risks. (3 CCR § 6158.)

DPR scientists evaluate scientific data and label statements for a proposed registration action based on their area of expertise. Pesticide Evaluation Branch scientists evaluate product label statements and the areas of chemistry, phytotoxicity (flora/plants), efficacy, and ecotoxicology

(fauna/fish and wildlife). Environmental Monitoring Branch scientists evaluate product label statements and potential environmental impacts of applicable pesticide products on air and water. This evaluation may include the assessment of volatile organic compounds (VOCs), air monitoring data, and products intended to be applied to water. Human Health Assessment Branch scientists evaluate toxicology data and product label statements pertaining to human health (e.g., first aid, precautionary statements, personal protective equipment, restricted entry interval).

As part of its certified regulatory program, DPR consults with other public agencies regarding proposed pesticide registrations and more broadly on regulatory policies through its Pesticide Registration and Evaluation Committee (PREC). The PREC advises DPR on regulatory development, policy and implementation, and scientific issues associated with evaluating and reducing risks from pesticide use. The PREC brings together public agencies whose activities or resources may be affected by the use of pesticides. The PREC includes representatives of the state Departments of Public Health, Food and Agriculture, Industrial Relations, Fish and Wildlife, and the Structural Pest Control Board; CalEPA's Office of Environmental Health Hazard Assessment, CalRecycle, State Water Resources Control Board, Air Resources Board, and Department of Toxic Substances Control; the University of California IR-4 Project and Department of Environmental Toxicology; U.S. EPA, Region 9; U.S. Department of Agriculture/Agricultural Research Service; and the California Agricultural Commissioners and Sealers Association. More information regarding the PREC is available on DPR's website at: <https://www.cdpr.ca.gov/docs/dept/prec/precmenu.htm>.

Environmental and Human Health Checklist:

In accordance with its certified regulatory program, DPR evaluates each proposed project for its potential to create a significant adverse impact on human health or the environment. Before a pesticide product containing a new active ingredient is registered in California, DPR performs a comprehensive review of data submitted on the active ingredient and pesticide product and reviews the proposed product label to determine how the product may affect human health or the environment. DPR scientists reviewed the proposed project, data submitted, and the product label for the project's potential to cause a significant adverse impact on the following areas relevant to human health or the environment:

- ☒ Human Health
- ☒ Flora (Plants)
- ☒ Fauna (Fish & Wildlife)
- ☒ Water
- ☒ Air

Discussion of Feasible Alternatives and Mitigation

DPR's certified regulatory program regulations require DPR to issue a statement of any reasonable mitigation measures that are available to minimize significant adverse environmental impacts, and a statement and discussion of reasonable alternatives which would reduce any significant adverse environmental impact. (3 CCR § 6254.)

Alternatives. CEQA does not require DPR to consider every conceivable alternative to a project. Rather, DPR must consider only a reasonable range of feasible alternatives to the project that would foster informed decision making and public participation. This public report analyzes four alternatives to the project of accepting an amendment to a registered pesticide product label for use in California and recommends a preferred alternative action.

Alternative # 1: Accept the proposed amendment to a registered pesticide product label. The project submitted to DPR for review and consideration is the acceptance of the proposed amendment to a registered pesticide product label for use in California. U.S. EPA previously accepted the proposed amendment. During its evaluation of a project, DPR may identify potential human health or environmental concerns that are not adequately mitigated by the originally proposed amended pesticide product label. In those cases, the applicant may choose to voluntarily amend the label or propose a label specific to California to mitigate the identified concerns and submit the updated label to U.S. EPA and DPR for consideration. The availability of new products and/or new uses of existing products can help prevent pest resistance. Although it is speculative to determine whether accepting this proposed label amendment would increase or decrease the use of this product or other registered products, this product will provide another pest control option for specific pests or use sites, allowing the selection of the optimal pest control tool for each unique situation. As demonstrated below, DPR's scientific evaluation of this project has not identified a significant adverse environmental or human health impact that is reasonably expected to occur from this proposed registration action based on the label attached below.

Alternative # 2: Require revision of the proposed amended pesticide product label. This project alternative is not feasible at the state level under federal law. Under FIFRA, U.S. EPA must first accept the proposed pesticide label before DPR can accept the proposed amended label. (7 U.S.C. § 136a.) Further, federal law prohibits California from imposing any requirements for labeling or packaging in addition to, or different from, those required under FIFRA. (7 U.S.C. § 136v(b).) However, during the scientific evaluation process, DPR may identify potential human health or environmental concerns that are not adequately mitigated by the originally proposed amended pesticide product label. In those cases, an applicant may choose to voluntarily amend the label or propose a label specific to California to mitigate the identified concerns and submit the updated label to U.S. EPA and DPR for consideration. The amended label accepted by DPR must be essentially the same (or contain a subset of uses) as the label accepted by U.S. EPA. As part of its application for this project, the applicant submitted documentation demonstrating that U.S. EPA accepted the proposed amended label. Therefore, federal preemption prohibits DPR from requiring label revisions that are in addition to, or different from, U.S. EPA's registered label and proceeding with this alternative is not feasible under federal law.

Alternative # 3: Adopt a regulation. The California Legislature has given DPR the authority to adopt regulations that are reasonably necessary to implement its pesticide regulatory program. The rulemaking process is a time-consuming process that requires extensive staff research, meetings with interested parties, public workshops and hearings for public comment, and formal notices through the Office of Administrative Law. The rulemaking process places the burden of developing mitigation by way of regulation on DPR rather than requiring the applicant or registrant, who will benefit from the registration, to develop label requirements to address mitigation and seek U.S. EPA approval. DPR typically goes through the rigorous process of

adopting a regulation when it determines that existing use has resulted in adverse effects and additional restrictions beyond the label requirements and current regulations are necessary to carry out its statutory mandate to protect human health and the environment. As demonstrated below, DPR's scientific evaluation of this project has not identified a significant adverse environmental or human health impact that is reasonably expected to occur from this proposed registration action. Therefore, at this point in time, it is both premature and speculative that the need for a regulation exists.

Alternative # 4: No Action (Decision to deny proposed label amendment). The no action alternative means that DPR would not accept the proposed amended label for the registered pesticide product. As this pesticide product is already registered for use in California, the impact of taking no action on the proposed project would result in keeping the previous pesticide product label without the proposed amendment in place for use in California. The No Action alternative would also not allow the changes proposed under the submitted amended label.

Preferred Alternative: DPR determined that accepting the label amendment to a registered pesticide product label will not have any reasonably expected significant adverse impacts on human health or the environment. Due to the lack of feasibility and speculative nature of Alternatives #2, #3, and #4, the preferred alternative is Alternative #1 (i.e., accept the proposed amendment to a registered pesticide product label).

Mitigation. After reviewing this project, DPR determined that use of this pesticide product in a manner consistent with its label and any applicable use restrictions is not expected to have any direct or indirect significant adverse human health or environmental impact. Therefore, there is no need to propose additional mitigation measures beyond those already incorporated into the project (proposed amended pesticide label) and within the regulatory framework already in place to avoid or reduce any significant effects on the environment. After registration, DPR continuously evaluates pesticides registered for use in California to determine if a pesticide has caused or is likely to cause a significant adverse impact on human health or the environment. In the event DPR's continuous evaluation determines additional mitigation is necessary, DPR will investigate and may initiate further evaluation of the pesticide product or active ingredient to address the identified or potential concern.

Existing Environmental Conditions and Cumulative Impacts

DPR currently registers approximately 12,500 different pesticide products containing approximately 1,040 different active ingredients for use in California. DPR first registered this applicant's product in 2022. Currently, this product is registered for use on a number of different use sites, including greenhouses; nurseries; onions; celery, lettuce, and spinach; peppers and tomatoes; grapes, strawberry, cranberry, raspberry, and blackberry; ornamental plants and grasses, shrubs, vines, trees, and bedding plants; and turf.

This product contains the following active ingredient:

- *Metarhizium brunneum* (formerly known as *Metarhizium anisopliae*) strain F52, first registered with DPR in 2010.
- 3: Current number of products containing the above active ingredient registered in California.

California has a comprehensive pesticide use reporting (PUR) program. In 1990, California became the first state to require full reporting of agricultural pesticide use. Under the program, all agricultural pesticide use must be reported to county agricultural commissioners, who in turn, report the data to DPR. It should be noted that California has a broad legal definition of "agricultural use" so the reporting requirements include pesticide applications to parks, golf courses, cemeteries, rangeland, pastures, and along roadside right-of-way. In addition, postharvest pesticide treatments of agricultural commodities must be reported along with all pesticide treatments in poultry and fish production as well as some livestock applications. The PUR also includes non-agricultural uses applied by certified applicators such as structural applications and any applications by businesses performing pest control for hire. The primary exceptions to the reporting requirements are home-and-garden use by homeowners and most industrial and institutional uses. (3 CCR §§ 6624-6628.) DPR checks the accuracy of PUR data between the initial data entry and before it is publicly available, and makes adjustments after publication if necessary. More information regarding DPR's PUR program is available on DPR's website at: <https://www.cdpr.ca.gov/docs/pur/purmain.htm>.

In DPR's Pesticide Use Report from 2021, there were approximately:

- zero total pounds of *Metarhizium brunneum* (formerly known as *Metarhizium anisopliae*) strain F52 reported as being applied on one different agricultural use sites in California.

In DPR's Pesticide Use Report from 2021, there were approximately:

- zero total pounds of *Metarhizium brunneum* (formerly known as *Metarhizium anisopliae*) strain F52 reported as being applied on zero different agricultural use sites in California.

In 2023, the most recent year in which DPR published its annual Pesticide Use Report, there were approximately:

- 47.26 total pounds of *Metarhizium brunneum* (formerly known as *Metarhizium anisopliae*) strain F52 reported as being applied on six different agricultural use sites in California.

DPR's registration of a particular pesticide product is only a general license to sell the product in California and is not an indicator of certain future use or the extent of such use. In general, the availability of a new product or a new use of an existing pesticide provides more marketplace options, but does not necessarily mean that a user will purchase or apply more product. As registration does not translate to additive use, this label amendment is not expected to be cumulatively significant.

Pesticide use patterns of this active ingredient can vary from year to year based on a number of factors, including changes in planted acreage, crop plantings, pest pressures, weather conditions, supply of raw ingredients or regulations. Product loyalty, marketing techniques, company takeovers, pricing and sales promotions can also affect the amount of specific pesticide products sold in a particular year. In addition, there are over a thousand different active ingredients in products currently registered for use in California with thousands of different use sites. Assessing which specific chemical may be used at a particular point in time in the future and what other active ingredient(s) may or may not be used in the same vicinity, their amounts and frequency of

use, and by what application method cannot be predicted at the time of this statewide registration action and is wholly speculative. Based on unknown factors on specific use, it is too speculative for DPR to predict whether the availability of this pesticide product, as proposed in this registration decision, will increase the overall future use of this active ingredient. In addition to the fact that precise parameters of future pesticide use cannot be predicted, DPR is not currently aware of a scientifically valid methodology to evaluate potential cumulative interactions between the active ingredient contained in this product with other active ingredients to support a proposed regulatory decision at this time. However, DPR's scientific evaluation of this proposed decision to accept this label amendment has not identified direct or indirect significant adverse human health or environmental impacts from the use of this product that might subsequently lead to a cumulative impact. Therefore, DPR does not expect that this registration action will result in a direct or cumulative significant adverse impact to human health or the environment.

As mentioned above, there are pesticide products currently registered in California with the same active ingredient, all of which have similar use patterns. DPR's certified regulatory program incorporates the real-time consideration of cumulative impacts by requiring DPR to continuously evaluate pesticides registered for use in California and take necessary action if a potential concern is identified. (FAC § 12824.) DPR accomplishes its mandate to continuously evaluate pesticides by conducting a number of activities including, but not limited to: ongoing DPR registration reviews that involve conducting human health risk assessments on individual active ingredients to comply with its statutory obligations to protect human health (FAC §§ 14021-14025; FAC § 13129); investigating reports of adverse environmental or human health effects from pesticide use submitted by the applicant/registrant as required (3 CCR § 6210) or received from the public; investigating reports of pesticide illness; sampling for pesticide residue on produce; monitoring the environment (air/water); and evaluating information submitted by other entities, including state and federal agencies, or contained in studies conducted by public or private research entities according to established scientific standards. In addition, pesticide use reporting aids DPR in evaluating cumulative impacts from specific pesticide use. DPR must also investigate all reported episodes and information received that indicate a pesticide may have caused or is likely to cause a significant adverse impact. If the Director finds from the investigation that a significant adverse effect has occurred or is likely to occur, DPR must reevaluate the pesticide involved. (3 CCR §§ 6220-6226). Currently, this product or active ingredient is not under reevaluation by DPR.

Conclusion

LALGUARD M52 GR is a microbial insecticide containing the active ingredient *Metarhizium brunneum* (formerly known as *Metarhizium anisopliae*) strain F52 and is applied by thoroughly mixing into the growing media of nursery planting mixes or soil or as a broadcast to turf.

This product is currently registered for use:

- In greenhouses, nurseries, and on urban and suburban residential and institutional lawns and landscape perimeters.
- On onions; celery, lettuce, and spinach; peppers and tomatoes; grapes, strawberry, cranberry, raspberry, and blackberry; ornamental plants and grasses, shrubs, vines, trees, and bedding plants; and turf.
- To control thrip pupae, vine weevils (larvae), and ticks.

The registrant requested to amend the registered label to correct the minimum number of colony forming units, add instructions for soil applications, expand crop groups/add new crops, add control of aphids, and make minor typographical changes.

Human Health

The proposed label adequately identifies the acute toxicity hazards. The registrant is requesting to add new crops, add specific instructions for soil incorporation, and add control of aphids. The application rates on the proposed label are consistent with the currently accepted application rates. The existing first aid and precautionary statements, personal protective equipment, and restrictive entry interval on the current label are appropriate to support the requested changes. Furthermore, U.S. EPA's December 2020 Interim Registration Review Decision for *Metarhizium anisopliae* strains F52 and ESF1 concluded no significant human exposure is anticipated, either occupationally or residentially, from the use of this active ingredient. If the pesticide is used as labeled, non-occupational and residential exposure is not likely to be greater than that which exists to the naturally occurring microbe. Exposure to workers and handlers is mitigated by the labeled personal protective equipment. Due to its low toxicity, any potential exposure to workers and handlers is not expected to pose any significant risk when used in accordance with all labeling instructions. As a result, DPR does not expect the proposed label amendments will have a significant adverse effect on human health.

Environment (flora, fauna, water, and air)

The registrant is proposing to add use on new crops, expand crop groups, add specific instructions for soil applications, and add control of aphids. Based on the phytotoxicity data reviewed by DPR to support the added crops and target pest, no unacceptable phytotoxicity is expected. As stated above, the proposed application rates associated with the label changes are consistent with the application rates for crops and pests listed on the currently registered label. In addition, according to U.S. EPA's December 2020 Interim Registration Review Decision for *Metarhizium anisopliae* strains F52 and ESF1, *Metarhizium* are fungi found naturally in soil worldwide. Therefore, DPR does not expect the proposed amendments will have a significant adverse effect on flora.

The registrant is requesting to add new crops and add control of aphids. The proposed application rates associated with these changes are consistent with the currently accepted application rates. Based on ecotoxicology data and information to support these changes, DPR determined the added uses are not expected to pose adverse impacts to nontarget organisms. According to U.S. EPA's December 2020 Interim Registration Review Decision for *Metarhizium anisopliae* strains F52 and ESF1, "No harm is expected to freshwater and estuarine/marine fish, invertebrates or aquatic insects from the small quantities of *Metarhizium anisopliae* Strain F52 that might enter the aquatic environment from incidental drift and runoff from approved terrestrial uses." Additionally, U.S. EPA states "Submitted studies show that *Metarhizium anisopliae* strain F52 is not harmful to earthworms or to such beneficial insects as lady beetles, green lacewings, parasitic wasps, honeybee larvae, and honeybee adults. In addition, following applications of strain F52 the fungus returns to levels that cannot be distinguished from the naturally occurring *Metarhizium*." The environmental hazards statement prohibits users from applying this product directly to water, areas where surface water is present, or intertidal areas below the mean high water mark. Users are also prohibited from contaminating water when

disposing of equipment washwater of rinsate. Moreover, *Metarhizium brunneum* (formerly known as *Metarhizium anisopliae*) strain F52 is not currently designated in DPR's regulations as having the potential to pollute groundwater. As a result, DPR does not expect the proposed changes to the label will have a significant adverse effect on nontarget fauna and water quality.

The active ingredient contained in this product is not currently designated as a toxic air contaminant or regulated as a potential source of volatile organic compounds that may adversely impact the attainment of health-based air quality standards. Therefore, DPR does not expect the proposed amendments will have a significant adverse effect on air quality.

In summary, DPR evaluated the project (proposed label amendment) and scientific data supporting this registration action. DPR's scientific evaluation of this proposed amendment has not identified direct or indirect significant adverse human health or environmental impacts from use of this pesticide product in a manner consistent with its label and any applicable use restrictions in regulation. At this time, DPR's methods for continuous evaluation have not identified that this pesticide product or active ingredient has caused or is likely to cause a significant adverse impact on human health or the environment. As a result, DPR determined that the acceptance of this proposed amendment is not expected to have any significant adverse effect that can reasonably be expected to occur, directly or indirectly, to human health or the environment.

Current Label and Proposed Label Below

The following pages contain the current DPR-registered pesticide product label and the proposed pesticide product label for this submission. DPR is unable to modify the labels because they were created by a third party. If you need assistance viewing the associated labels, please contact the Pesticide Registration Branch at (916) 445-4400.

product File
ID# 303952

LABELING ACCEPTABLE
STATE OF CALIFORNIA
DEPARTMENT OF PESTICIDE REGULATION
PESTICIDE REGISTRATION
Date 9.21.22 Reviewer Jaradat
Reg. No. 64137-31-AA

LALGUARD M52 GR

BIOINSECTICIDE

ACTIVE INGREDIENT:	% w/w
METARHIZIUM BRUNNEUM (FORMERLY KNOWN AS *METARHIZIUM ANISOPLIAE*) Strain F52*	2.0%
OTHER INGREDIENTS:	98.0%
TOTAL:	100.0%

** Contains a minimum of 6.0 x 10^8 Colony Forming Units (CFU)/g of product.*

KEEP OUT OF REACH OF CHILDREN

CAUTION

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Causes moderate eye irritation. Harmful if inhaled, absorbed through skin, or swallowed. Avoid contact with skin, eyes, or clothing. Avoid breathing dust. 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.

Refer to directions of use within this booklet

NET CONTENTS:
22 lb (10 kg)

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 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 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.

HOTLINE NUMBER

Have the product container or label with you when calling a poison control center or doctor or going for treatment. For emergency information on this pesticide product (including health concerns, medical emergencies, or pesticide incidents) call the National Pesticide Information Center at 1-800-858-7378 8:00AM – 12:00PM Pacific Time (PT), Mon-Fri. During other times call the poison control center at 1-800-222-1222.

Batch No.: See printing on the bag I Expiration Date: See printing on the bag

Manufactured for:
Danstar Ferment AG/
LALLEMAND PLANT CARE
Poststrasse 30
Zug CH-6300 Switzerland

Marketed and distributed by:
Lallemand Specialities Inc. / LALLEMAND PLANT CARE
6120 West Douglas Avenue
Milwaukee, WI 53218
United States

EPA Est. No.: ☐ 94593-BRA-001 ☐ 94593-DEU-001
EPA Reg. No.: 64137-31

7 640182 121600

9LK14RTGB–04/22

LALLEMANDPLANTCARE.COM

LALLEMAND

Peel back for instructions.
PRESS TO RESEAL.

PERSONAL PROTECTIVE EQUIPMENT

Mixer/loaders, applicators, and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes and socks
- Protective eyewear

Wear a minimum of a NIOSH-approved particulate filtering facepiece respirator with any R, or P filter; OR a NIOSH-approved elastomeric particulate respirator with any, 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 for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

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 170.240(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 break-down.

USER SAFETY RECOMMENDATIONS

- Users should remove clothing immediately if pesticide gets inside, then wash thoroughly and put on clean clothing
- Remove personal protection equipment 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

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 washwater or rinsate.

PHYSICAL OR CHEMICAL HAZARDS

For spill, leak, fire, exposure, or accident call CHEMTREC at 1-800-424-9300, day or night.

DIRECTIONS FOR USE

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

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 12 hours.

EXCEPTION: 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.

PPE required for early entry to treated areas requiring an REI that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water are:

- Coveralls
- Waterproof gloves
- Shoes plus socks
- Protective eyewear
- NIOSH-approved particulate filtering facepiece respirator with any R, or P filter; OR a NIOSH-approved elastomeric particulate respirator with any, R, or P filter; OR a NIOSH-approved powered air- purifying respirator with an HE filter.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Keep unprotected persons out of treated areas until sprays have dried.

General

LALGUARD® M52 GR is composed of spores of the insect pathogenic fungus *Metarhizium brunneum* (formerly known as *Metarhizium anisopliae*) Strain F52 on a grain matrix. Once the product is incorporated into the growing medium, insects that come into contact with the fungus will become infected. The spores of *Metarhizium brunneum* (formerly known as *Metarhizium anisopliae*) attach to the surface of the insect, germinate, and begin to grow. It will penetrate the exoskeleton of the insect and grow inside the insect, causing the insect to die. Under moderate temperatures it usually takes three to seven days once the insect is exposed for death to occur. At very cold or hot temperatures death may occur more slowly. The fungal spores will be more persistent when incorporated in the soil, especially in potting media, than when applied to foliage.

Note: LALGUARD M52 GR contains live spores that may be harmed by storage at high temperatures. See storage and disposal section for more information.

Mode of action and application timing: Application frequency will depend on the environment to which LALGUARD M52 GR is applied and the target insects' life cycle. Persistence of LALGUARD M52 GR will generally be higher when incorporated into soil. Applications to leaf litter and turf may be done on a four to six week interval with an expected residual efficacy of a few months.

When possible, application to soil should be done in advance of when target insect will be passing through the top six inches of soil. A residual efficacy of a few months can be expected. Although the penetration of LALGUARD M52 GR into soil will vary greatly with soil type and level of irrigation it is best to target populations as close to the surface as possible or time application of LALGUARD M52 GR with a soil incorporation event.

Once the product is incorporated into the growing medium, insects that come into contact with the fungus become infected. The spores attach to the surface of the insect, germinate and grow. Under moderate temperatures it usually takes three to seven days once the insect is exposed for death to occur. At very cold or hot temperatures death may occur more slowly. The fungal spores will be more persistent when incorporated in the soil, especially in potting media, than when applied to foliage. LALGUARD M52 GR has been demonstrated to last through two black vine weevil egg laying seasons when incorporated into growing media in the spring before egg lay. Other insects that come into contact with infected insects may also be infected extending the control period.

Pre-harvest interval: The pre-harvest interval for LALGUARD M52 GR is zero (0) days. LALGUARD M52 GR may be applied up to the day of harvest.

Sites for use

Terrestrial non-food: Greenhouse ornamental, nurseries, urban and suburban residential and institutional lawns and landscape perimeters. Do not apply on poinsettias after bract formation.

Food Crops: LALGUARD M52 GR can be applied to the crops listed in Table 1. LALGUARD M52 GR has shown plant safety but has not been tested on all varieties. Test LALGUARD M52 GR on a small number of plants to check for potential damage before applying to a large number of plants.

Application instructions

Nursery planting mix: Apply LALGUARD M52 GR prior to or during planting by thoroughly mixing the product into the growing medium, ensuring even distribution. It may help distribution to first apply the full concentration of a smaller volume of growing medium such as to 1/3 to 1/10 of the total volume and then mix this concentrated growing medium with the full volume. Apply at a rate of 1.5 to 3.0 pounds of product per cubic yard of growing medium (or 25 to 50 grams per cubic foot of growing medium). Use higher label rates when larval pressure is expected to be high.

LALGUARD M52 GR is grown on rice grains that will decompose in the growing media. Pests likely to be attracted to grain, such as rodents, must be controlled prior to use of this product.

Application to turf: Apply 1 to 3 pounds of LALGUARD M52 GR to 1000 square feet in residential and institutional lawns and landscape perimeters. Applications for blacklegged ticks should focus on the border of manicured lawns and paths creating a minimum of a 9 foot border. Applications for more mobile ticks such as the lonestar tick should cover a wider area and include the entire lawn. Initial applications should begin in the spring before ticks become active and continue at four to eight week intervals throughout their active season.

Crop	Pest	Application	Rate
Onions	thrip pupae	nursery plant mix	1.5 - 3.0 lb/yd^3
Celery, lettuce, spinach	thrip pupae	nursery plant mix	1.5 - 3.0 lb/yd^3
Peppers, tomatoes	thrip pupae	nursery plant mix	1.5 - 3.0 lb/yd^3
Grape, strawberry, cranberry, raspberry, blackberry	thrip pupae, vine weevils (larvae)	nursery plant mix	1.5 - 3.0 lb/yd^3
Ornamental plants and grasses: shrubs, vines, trees, bedding plants, etc.	thrip pupae, vine weevils (larvae)	nursery plant mix	1.5 - 3.0 lb/yd^3
Turf: institutional, residential lawns (urban and suburban)	ticks	broadcast	1.0 - 3.0 lb/1000 ft^2

STORAGE AND DISPOSAL

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

Pesticide storage

Store LALGUARD M52 GR in its original container below 73 °F (23 °C) in a dry, locked place out of reach of children and out of direct sunlight. Do not use or store near heat or open flame.

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

Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling, if available, or dispose of empty bag in a sanitary landfill or by incineration. Do not burn, unless allowed by state and local ordinances.

NOTICE TO USER

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.

LALGUARD M52 GR

BIOINSECTICIDE

	% w/w
ACTIVE INGREDIENT:	
METARHIZIUM BRUNNEUM (FORMERLY KNOWN AS *METARHIZIUM ANISOPLIAE*) Strain F52*	2.0%
OTHER INGREDIENTS:	98.0%
TOTAL:	100.0%

** CONTAINS A MINIMUM OF 6.0 X 108 COLONY FORMING UNITS (CFU)/G OF PRODUCT.*

STORAGE AND DISPOSAL

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

Pesticide storage
Store LALGUARD M52 GR in its original container below 73 °F (23 °C) in a dry, locked place out of reach of children and out of direct sunlight. Do not use or store near heat or open flame.

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
Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling, if available, or dispose of empty bag in a sanitary landfill or by incineration. Do not burn, unless allowed by state and local ordinances.

KEEP OUT OF REACH OF CHILDREN

CAUTION

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Causes moderate eye irritation. Harmful if inhaled, absorbed through skin, or swallowed. Avoid contact with skin, eyes, or clothing. Avoid breathing dust. 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.

Refer to directions of use within this booklet

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 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 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.

HOTLINE NUMBER

Have the product container or label with you when calling a poison control center or doctor or going for treatment. For emergency information on this pesticide product (including health concerns, medical emergencies, or pesticide incidents) call the National Pesticide Information Center at 1-800-858-7378 8:00AM – 12:00PM Pacific Time (PT), Mon-Fri. During other times call the poison control center at 1-800-222-1222.

Batch No.: See printing on the bag
Expiration Date: See printing on the bag

EPA Est. No.: ☐ 94593-BRA-001 ☐ 94593-DEU-001
EPA Reg. No.: 64137-31

NET CONTENTS:
22 lb (10 kg)

Manufactured for:
Danstar Ferment AG/
LALLEMAND PLANT CARE
Poststrasse 30
Zug CH-6300 Switzerland

Marketed and distributed by:
Lallemand Specialities Inc. / LALLEMAND PLANT CARE
6120 West Douglas Avenue
Milwaukee, WI 53218
United States

9LK14RTGB–04/22

LALLEMANDPLANTCARE.COM

LALLEMAND

Proposed Label
ID #307350

LALGUARD M52 GR

BIOINSECTICIDE

ACTIVE INGREDIENT:	
METARHIZIUM BRUNNEUM (FORMERLY KNOWN AS *METARHIZIUM ANISOPLIAE*) Strain F52*	2.0%
OTHER INGREDIENTS:	98.0%
TOTAL:	100.0%

** Contains a minimum of 9.0 x 10^8 Colony Forming Units (CFU)/g of product.*

KEEP OUT OF REACH OF CHILDREN

CAUTION

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Causes moderate eye irritation. Harmful if inhaled, absorbed through skin, or swallowed. Avoid contact with skin, eyes, or clothing. Avoid breathing dust. 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.

NET CONTENTS:
22 lb (10 kg)

OMRI LISTED

FIRST AID	
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IF INHALED:	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably 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.
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Poststrasse 30
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EPA Reg. No.: 64137-31

7 640182 121600

9LK14RTGB-12/23

LALLEMANDPLANTCARE.COM

LALLEMAND

Peel back for instructions.
PRESS TO RESEAL.

PERSONAL PROTECTIVE EQUIPMENT

Mixer/loaders, applicators, and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes and socks
- Protective eyewear

Wear a minimum of a NIOSH-approved particulate filtering facepiece respirator with any R, or P filter; OR a NIOSH-approved elastomeric particulate respirator with any, 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 for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

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 170.240(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 break-down.

USER SAFETY RECOMMENDATIONS

- Users should remove clothing immediately if pesticide gets inside, then wash thoroughly and put on clean clothing.
- Remove personal protection equipment 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

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 washwater or rinsate.

DIRECTIONS FOR USE

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

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 12 hours.

EXCEPTION: 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.

PPE required for early entry to treated areas requiring an REI that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water are:

- Coveralls
- Waterproof gloves
- Shoes plus socks
- Protective eyewear
- NIOSH-approved particulate filtering facepiece respirator with any R, or P filter; OR a NIOSH-approved elastomeric particulate respirator with any, R, or P filter; OR a NIOSH-approved powered air- purifying respirator with an HE filter.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Keep unprotected persons out of treated areas until sprays have dried.

PRODUCT INFORMATION

LALGUARD® M52 GR is composed of spores of the insect pathogenic fungus *Metarhizium brunneum* (formerly known as *Metarhizium anisopliae*) Once the product is incorporated into soils or growing media, insects that come into contact with the fungus will become infected. The spores of *Metarhizium brunneum* (formerly known as *Metarhizium anisopliae*) attach to the surface of the insect, germinate, and begin to grow. It will penetrate the exoskeleton of the insect and grow inside the insect, causing the insect to die. Under moderate temperatures it usually takes three to seven days once the insect is exposed for death to occur. At very cold or hot temperatures death may occur more slowly. The fungal spores will be more persistent when incorporated in the soil or growing media, especially in potting media, than when applied to foliage.

Note: LALGUARD M52 GR contains live spores that may be harmed by storage at high temperatures. See storage and disposal section for more information.

MODE OF ACTION AND APPLICATION TIMING: Application frequency will depend on the environment to which LALGUARD M52 GR is applied and the target insects' life cycle. Persistence of LALGUARD M52 GR will generally be higher when incorporated into soil or growing media. Applications to soils, growing media, leaf litter or turf may be done
on a four to six week interval with an expected residual efficacy of a few months.

When possible, application to soil should be done in advance of when target insect will be passing through the top two - six inches of soil. Although the penetration of LALGUARD M52 GR into soil will vary greatly with soil type and level of irrigation it is best to target populations as close to the surface as possible or time application of LALGUARD M52 GR with a soil incorporation event.

Once the product is incorporated into the into the soil or growing media, insects that come into contact with the fungus become infected. The spores attach to the surface of the insect, germinate and grow. Under moderate temperatures it usually takes three to seven days once the insect is exposed for death to occur. At very cold or hot temperatures death may occur more slowly. The fungal spores will be more persistent when incorporated in the soil or growing media, especially in potting media, than when applied to foliage. For example, LALGUARD M52 GR has been demonstrated to last through two black vine weevil egg laying seasons when incorporated into growing media in the spring before egg lay. Other insects that come into contact with infected insects may also be infected extending the control period.

PRE-HARVEST INTERVAL: The pre-harvest interval for LALGUARD M52 GR is zero (0) days. LALGUARD M52 GR may be applied up to the day of harvest.

SITES FOR USE

TERRESTRIAL NON-FOOD: Greenhouse ornamental, nurseries, institutional lawns and landscape perimeters. Do not apply on poinsettias after bract formation.

FOOD CROPS: LALGUARD M52 GR can be applied to the crops listed in Table 1. LALGUARD M52 GR has shown plant safety but has not been tested on all varieties. Test LALGUARD M52 GR on a small number of plants to check for potential damage before applying to a large number of plants.

APPLICATION INSTRUCTIONS

NURSERY PLANTING MIX: Apply LALGUARD M52 GR prior to or during planting by thoroughly mixing the product into the growing media, ensuring even distribution. It may help distribution to first apply the
full concentration of a smaller volume of growing medium such as to 1/3 to 1/10 of the total volume and then mix this concentrated growing medium with the full volume. Apply at a rate of 1.5 to 3.0 pounds of product per cubic yard of growing media (or 25 to 50 grams per cubic foot of growing medium). Use higher label rates when larval pressure is expected to be high.

LALGUARD M52 GR is grown on rice grains that will decompose in the growing media. Pests likely to be attracted to grain, such as rodents, must be controlled prior to use of this product.

APPLICATION TO SOIL: Apply LALGUARD M52 GR prior to or during planting by thoroughly mixing the product into the soil, ensuring even distribution. Apply at a rate of 1.5 to 3.0 lbs. of product per cubic yard of soil (or 25 to 50 grams per cubic foot of soil). Use higher label rates when larval pressure is expected to be high.

APPLICATION TO TURF: Apply 1 to 3 pounds of LALGUARD M52 GR to 1000 square feet in residential and institutional lawns and landscape perimeters. Applications for blacklegged ticks should focus on the border of manicured lawns and paths creating a minimum of a 9 foot border. Applications for more mobile ticks such as the lonestar tick should cover a wider area and include the entire lawn. Initial applications should begin in the spring before ticks become active and continue at four to eight week intervals throughout their active season.

Table 1: Crops on which LALGUARD M52 GR may be used

Crop	Pest	Application	Rate
Root, tuber, and bulb vegetables, including: beet (e.g., garden and sugar), carrot, cassava, celeriac, chicory, Chinese artichoke, chive, dasheen, garlic, ginger, ginseng, horseradish, Jerusalem artichoke, leek, onion, parsnip, potato, radish, rutabaga, salsify, shallot, sweet potato, turmeric, turnip, turnip-rooted chervil, yam	thrips (pupae)	nursery planting mix, growing media or soil	1.5 - 3.0 lb/yd^3
Leafy vegetables, *Brassica* (cole) leafy vegetables, and other vegetables, including: Leafy vegetables – arugula, celery, Belgian endive, fennel, lettuce (e.g., head and leaf), parsley, radicchio, rhubarb, spinach, Swiss chard, and watercress / Brassica (cole) leafy vegetables – broccoli, Brussels sprouts, cabbage, cauliflower, Chinese cabbage, collards, kale, kohlrabi, mustard greens, Other vegetables – asparagus	thrips (pupae)	nursery planting mix, growing media or soil	1.5 - 3.0 lb/yd^3
Fruiting vegetables, including: eggplant, pepper (e.g., bell, sweet, and hot), okra, tomatillo, tomato	thrips (pupae)	nursery planting mix, growing media or soil	1.5 - 3.0 lb/yd^3
Berries and small fruits, including: blackberry, blueberry, cranberry, currant, elderberry, gooseberry, huckleberry, kiwifruit, loganberry, raspberry, strawberry, grape (e.g., table and wine)	thrips (pupae), vine weevils (larvae)	nursery planting mix, growing media or soil	1.5 - 3.0 lb/yd^3
Flowers, cut flowers, bedding plants, foliage and potted plants, and ornamentals, including: achillea, African violet, ageratum, aloe, alyssum, amaryllis, anemone, anthurium, aster, azalea, begonia, calceolaria, campanula, carnation, centaurea, cerastium, chrysanthemum, cineraria, coleus, cyclamen, daffodil, dahlia, daisy, delphinium, dianthus, dieffenbachia, dracaena, fern, freesia, fuchsia, gaillardia, gazania, geranium, gerbera, gladiolus, gloxinia, gypsophila, hedera, hibiscus, hyacinth, impatiens, iris, kalanchoe, liatris, lily, lobelia, marigold, matthiola, monarda, myrtle, New Guinea impatiens, nigella, pansy, pelargonium, petunia, phlox, poinsettia, poppy, primrose, ranunculus, rhododendron, rose, rudbeckia, salvia, sansevieria, sedum, senecio, sinningia, spathiphyllum, statice, sweet pea, tulip, verbena, vinca, zinnia and other greenhouse crops **Trees, shrub seedlings, and shade house and outdoor nursery crops, including:** arborvitae, ash, azalea, beech, birch, boxwood, buckeye, cactus, cedar, cherry, chestnut, crabapple, crepe myrtle, deciduous trees, (e.g., maple and oak), dogwood, fir, forest trees, fruit trees, hemlock, herbaceous ornamentals, juniper, larch, lilac, magnolia, ornamentals, ornamental grasses, ornamental palm, pine, rhododendron, shrubs, spruce, vine crops, walnut, woody ornamentals, yew and other nursery crops	thrips (pupae), vine weevils (larvae)	nursery planting mix, growing media or soil	1.5 - 3.0 lb/yd^3
Hemp	thrips (pupae), aphids	nursery planting mix, growing media or soil	1.0-3.0 lbs/ 1000 ft^2
Turf, including: turf grown for use as seed and sod, lawns (urban), landscapes, turf greens, sports fields, municipal and institutional turf.	ticks	broadcast	1.0 - 3.0 lb/1000 ft^2

STORAGE AND DISPOSAL

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

Pesticide storage

Store LALGUARD M52 GR in its original container below 73 °F (23 °C) in a dry, locked place out of reach of children and out of direct sunlight. Do not use or store near heat or open flame.

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

Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling, if available, or dispose of empty bag in a sanitary landfill or by incineration. Do not burn, unless allowed by state and local ordinances.

NOTICE TO USER

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LALGUARD M52 GR

BIOINSECTICIDE

ACTIVE INGREDIENT:	
METARHIZIUM BRUNNEUM (FORMERLY KNOWN AS *METARHIZIUM ANISOPLIAE*) Strain F52*	**2.0%**
OTHER INGREDIENTS:	**98.0%**
TOTAL:	**100.0%**

** Contains a minimum of 9.0 x 10^8 Colony Forming Units (CFU)/g of product.*

STORAGE AND DISPOSAL

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

Pesticide storage
Store LALGUARD M52 GR in its original container below 73 °F (23 °C), in a dry, locked place out of reach of children and out of direct sunlight. Do not use or store near heat or open flame.

Pesticide disposal
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KEEP OUT OF REACH OF CHILDREN

CAUTION

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Causes moderate eye irritation. Harmful if inhaled, absorbed through skin, or swallowed. Avoid contact with skin, eyes, or clothing. Avoid breathing dust. 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.

Refer to directions of use within this booklet

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 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 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.

HOTLINE NUMBER

Have the product container or label with you when calling a poison control center or doctor or going for treatment. For emergency information on this pesticide product (including health concerns, medical emergencies, or pesticide incidents) call the National Pesticide Information Center at 1-800-858-7378 8:00AM – 12:00PM Pacific Time (PT), Mon-Fri. During other times call the poison control center at 1-800-222-1222.

Batch No.: See printing on the bag

EPA Est. No.: ☐ 94593-WI-001
EPA Reg. No.: 64137-31

NET CONTENTS:
22 lb (10 kg)

Manufactured for:
Danstar Ferment AG/
LALLEMAND PLANT CARE
Poststrasse 30
Zug CH-6300 Switzerland

Marketed and distributed by:
Lallemand Specialities Inc. / LALLEMAND PLANT CARE
6120 West Douglas Avenue
Milwaukee, WI 53218
United States

9LK14RTGB–12/23

LALLEMANDPLANTCARE.COM

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