



**PARK
WEST**

**Shaping
Your
Environment**

Notice of insecticide Application

Date of Application: September 30th

Location – Trails Linear turf areas

Reason for application – Spray turf areas for grubs

Product Manufacturer Name – Merit 2F

EPA # 101563-60

Active ingredient : Imidacloprid, 1-[(6-Chloro-3-pyridinyl)methyl]- N-nitro-2-imidazolidinimine ..

Precautionary Statements : HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION
Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling. Keep children or pets off treated area until spray is dry. PERSONAL PROTECTIVE EQUIPMENT (PPE) WPS USES: Applicators and Other Handlers who handle this product for any use covered by the Worker Protection Standard (40 CFR part 170) – in general, agricultural plant uses e.g., use in sod farms, must wear: • Long-sleeved shirt and long pants • Chemical resistant gloves made of any waterproof material such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinylchloride (PVC) or viton. If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart. • Shoes plus socks Follow manufacturer's instructions for cleaning/ maintaining personal protective equipment, PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

***Attached is the Label and SDS sheet**

***Dates are subject to change due to weather**



Merit[®]

2F

INSECTICIDE

For foliar and systemic insect control in turfgrass (including sod farms), landscape ornamentals, fruit and nut trees, and interior plantscapes.

ACTIVE INGREDIENT:

Imidacloprid, 1-[(6-Chloro-3-pyridinyl)methyl]-N-nitro-2-imidazolidinimine 21.4%

OTHER INGREDIENTS: 78.6%

TOTAL:

100.0%

Contains 2 pounds of imidacloprid per gallon.

SHAKE WELL BEFORE USING.

EPA Reg. No. 432-1312

Specimen Label

STOP – READ THE LABEL BEFORE USE
KEEP OUT OF REACH OF CHILDREN
CAUTION

PRECAUCION AL USUARIO: Si usted no puede leer o entender inglés, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

(TO THE USER: If you cannot read or understand English, do not use this product until the label has been fully explained to you.)

For MEDICAL And TRANSPORTATION Emergencies ONLY Call 24 Hours A Day 1-800-334-7577
 For PRODUCT USE Information Call 1-800-331-2867

FIRST AID

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.
If on skin or clothing:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
If in eyes:	• Hold eye open and rinse slowly and gently with water for 15 to 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.
In case of emergency call toll free the Bayer Environmental Science Emergency Response Telephone No. 800-334-7577. Have a product container or label with you when calling a poison control center or doctor, or going for treatment.	
NOTE TO PHYSICIAN: No specific antidote is available. Treat the patient symptomatically.	

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling.
Keep children or pets off treated area until spray is dry.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

WPS USES: Applicators and Other Handlers who handle this product for any use covered by the Worker Protection Standard (40 CFR part 170) – in general, agricultural plant uses e.g., use in sod farms, must wear:

- Long-sleeved shirt and long pants
- Chemical resistant gloves made of any waterproof material such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinylchloride (PVC) or viton. If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart.
- Shoes plus socks

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

NON-WPS USES: Applicators and other handlers who handle this product for any use NOT covered by the Worker Protection Standard (40 CFR part 170) – in general, only agricultural plant uses are covered by the WPS, must wear:

- Shirt and pants
- Gloves
- Shoes plus socks

ENGINEERING CONTROLS STATEMENTS

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

User should:

- Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.
- Remove and wash contaminated clothing before reuse.

ENVIRONMENTAL HAZARDS

This product is highly toxic to aquatic invertebrates. 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. This product is highly toxic to bees exposed to direct treatment or residues on blooming crops/plants or weeds. Do not apply this product or allow it to drift to blooming crops/plants or weeds if bees are foraging the treatment area.

This chemical demonstrates the properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.



PROTECTION OF POLLINATORS

APPLICATION RESTRICTIONS EXIST FOR THIS PRODUCT BECAUSE OF RISK TO BEES AND OTHER INSECT POLLINATORS. FOLLOW APPLICATION RESTRICTIONS FOUND IN THE DIRECTIONS FOR USE TO PROTECT POLLINATORS.

Look for the bee hazard icon  in the Directions for Use for each application site for specific use restrictions and instructions to protect bees and other insect pollinators.

This product can kill bees and other insect pollinators.

Bees and other insect pollinators will forage on plants when they flower, shed pollen, or produce nectar.

Bees and other insect pollinators can be exposed to this pesticide from:

- Direct contact during foliar applications, or contact with residues on plant surfaces after foliar applications
- Ingestion of residues in nectar and pollen when the pesticide is applied as a seed treatment, soil, tree injection, as well as foliar applications.

When Using This Product Take Steps To:

- Minimize exposure of this product to bees and other insect pollinators when they are foraging on pollinator attractive plants around the application site.
- Minimize drift of this product on to beehives or to off-site pollinator attractive habitat. Drift of this product onto beehives or off-site to pollinator attractive habitat can result in bee kills.

Information on protecting bees and other insect pollinators may be found at the Pesticide Environmental Stewardship website at: <http://pesticidestewardship.org/PollinatorProtection/Pages/default.aspx>.

Pesticide incidents (for example, bee kills) should immediately be reported to the state/tribal lead agency. For contact information for your state, go to: www.aapco.org/officials.html. Pesticide incidents should also be reported to the National Pesticide Information Center at: www.npic.orst.edu or directly to EPA at: beekill@epa.gov

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 agency responsible for pesticide regulation.

SEE INDIVIDUAL SITES FOR SPECIFIC POLLINATOR PROTECTION APPLICATION RESTRICTIONS.

**IF NONE EXIST UNDER THE SPECIFIC SITE, FOR OUTDOOR FOLIAR APPLICATIONS,
FOLLOW THESE APPLICATION DIRECTIONS.**



NON-AGRICULTURAL USES

**Do not apply Merit® 2F Insecticide while bees are foraging. Do not apply Merit 2F Insecticide to plants that are flowering.
Only apply after all flower petals have fallen off.**

MERIT 2F Insecticide can be used as directed on sod farms, and on turfgrass, and ornamentals on such sites: residential home lawns, business and office complexes, shopping complexes, multi-family residential complexes, golf courses, airports, cemeteries, parks, playgrounds, and athletic fields.

MERIT 2F Insecticide can be used by soil application as directed on trees, shrubs, flowers, and groundcovers in sites: in and around the perimeter of industrial and commercial buildings and residential areas, and municipal, city, state, national, and private wooded and forested areas.

RESTRICTION: Not for use in commercial greenhouses, nurseries, or on grasses grown for seed, or on commercial fruit and nut trees.

RESISTANCE: Some insects are known to develop resistance to insecticides after repeated use. As with any insecticide, the use of this product should conform to resistance management strategies established for the use area.

MERIT 2F Insecticide contains a Group 4A insecticide. Insect biotypes with acquired or inherent resistance to Group 4A insecticides may eventually dominate the insect population if Group 4A insecticides are used repeatedly as the predominant method of control for targeted species.

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 applied by drenching, 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 that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls
- Chemical resistant gloves made of any waterproof material such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinylchloride (PVC) or viton. If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart.
- Shoes plus socks

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product 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 and sod farm production. Keep children and pets off treated area until dry.

APPLICATION TO TURFGRASS

MERIT 2F Insecticide can be used for the control of soil inhabiting pests of turfgrass, such as Northern & Southern masked chafers, *Cyclocephala borealis*, *C. immaculata*, and/or *C. lurida*; Asiatic garden beetle, *Maladera castanea*; European chafer, *Rhizotrogus majalis*; Green June beetle, *Cotinis nitida*; May or June beetle, *Phyllophaga* spp.; Japanese beetle, *Popillia japonica*; Oriental beetle, *Anomala orientalis*; Billbugs, *Sphenophorus* spp.; Annual bluegrass weevil, *Hyperodes* spp.; Black turfgrass ataenius, *Ataenius spretulus* and *Aphodius* spp. European Crane Fly *Tipula paludosa*, and mole crickets, *scapteriscus* spp. MERIT 2F Insecticide can also be used for suppression of cutworms and chinch bugs.

The active ingredient in MERIT 2F Insecticide has sufficient residual activity so that applications can be made preceding the egg laying activity of the target pests. High levels of control can be achieved when applications are made preceding or during the egg laying period. The need for an application can be based on historical monitoring of the site, previous records or experiences, current season adult trapping or other methods. Optimum control will be achieved when applications are made prior to egg hatch of the target pests, followed by sufficient irrigation or rainfall to move the active ingredient through the thatch.

Do not apply when turfgrass areas are waterlogged or the soil is saturated with water. Adequate distribution of the active ingredient cannot be achieved when these conditions exist. The treated turf area must be in such a condition that the rainfall or irrigation will penetrate vertically in the soil profile.

RESTRICTION: Do not apply more than a total of 1.6 pints (0.4 lb of active ingredient) per acre per year.

APPLICATION EQUIPMENT FOR USE ON TURFGRASS

Apply MERIT 2F Insecticide in sufficient water to provide adequate distribution in the treated area. The use of accurately calibrated equipment normally used for the application of turfgrass insecticides is required. Use equipment which will produce a uniform, coarse droplet spray, using a low pressure setting to eliminate off target drift. Check calibration periodically to ensure that equipment is working properly.

APPLICATION TO ORNAMENTALS

MERIT 2F Insecticide is for use on ornamentals in commercial and residential landscapes and interior plantscapes. MERIT 2F Insecticide is a systemic product and will be translocated upward into the plant system from root uptake. To assure optimum effectiveness, the product must be placed where the growing portion of the target plant can absorb the active ingredient. The addition of a nitrogen containing fertilizer, where applicable, into the solution may enhance the uptake of the active ingredient. Application can be made by foliar application or soil applications; including soil injection, drenches, and broadcast sprays. Foliar applications offer locally systemic activity against insect pests.

When making soil applications to plants with woody stems, systemic activity will be delayed until the active ingredient is translocated throughout the plant. In some cases, this translocation delay could take 60 days or longer. For this reason, make application prior to anticipated pest infestation to achieve optimum levels of control.

RESTRICTION: Outdoor applications cannot exceed a total of 1.6 pints (0.4 lb of active ingredient) per acre per year.

ANT MANAGEMENT PROGRAMS

Use MERIT 2F Insecticide to control aphids, scale insects, mealybugs and other sucking pests on ornamentals to limit the honeydew available as a food source for ant populations. MERIT 2F Insecticide applications can be then be supplemented with residual sprays, bait placements or other ant control tactics to further reduce the pest population.

APPLICATION EQUIPMENT FOR FOLIAR APPLICATIONS

MERIT 2F Insecticide mixes readily with water and may be used in many types of application equipment. Mix product with the required amount of water and apply as desired dependent upon the selected use pattern.

When making foliar applications on hard to wet foliage such as holly, pine, or ivy, the addition of a spreader/ sticker is recommended. If concentrate or mist type spray equipment is used, apply an equivalent amount on the area sprayed, as would be used in a dilute application.

MERIT 2F Insecticide has been found to be compatible with commonly used fungicides, miticides, liquid fertilizers, and other commonly used insecticides. Check physical compatibility using the correct proportion of products in a small jar test if local experience is unavailable.

RESTRICTION: Do not apply through any irrigation system.

DIRECTIONS FOR USE ON TURFGRASSES IN RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL AREAS

SITE	PEST	DOSAGE MERIT 2F INSECTICIDE
TURFGRASSES (Residential home lawns, business and office complexes, shopping complexes, multifamily residential complexes, golf courses, airports, cemeteries, parks, playgrounds, athletic fields)	LARVAE OF: Annual bluegrass weevil Asiatic garden beetle Billbug Black turfgrass ataenius Cutworms (suppression) European chafer	European Crane Fly Green June beetle Japanese beetle Northern masked chafer Oriental beetle <i>Phyllophaga</i> spp. Southern masked chafer
	1.25 to 1.6 pt/A or 0.46 to 0.6 fl oz (14 to 17 mL) per 1000 sq ft	
	For optimum control of grubs, billbugs, annual bluegrass weevil, and European Crane Fly make application prior to egg hatch of the target pest. Be sure to read "APPLICATION EQUIPMENT" Section of this label.	
	Chinchbugs (suppression) Mole crickets	1.6 pt/A or 0.6 fl oz (17 mL) per 1000 sq ft
For suppression of chinch bugs, make application prior to the hatching of the first instar nymphs. For control of mole crickets make application prior to or during the peak egg hatch period. If application is not made prior to egg hatch or when adults or large nymphs are present and actively tunneling, apply Merit 2F Insecticide in combination with a remedial insecticide to minimize damage to turf. Follow label instructions for other insecticides when tank-mixing.		

Consult your local turf, state Agricultural Experiment Station, or State Extension Service Specialists for more specific information regarding timing of application.

For optimum control, if rainfall does not occur within 24 hours after application, irrigate to move the active ingredient through the thatch.

RESTRICTIONS:

- Do not apply more than 1.6 pt (0.4 lb of active ingredient) per acre per year.
- Do not mow turf or lawn area until after sufficient irrigation or rainfall has occurred so that uniformity of application will not be affected.
- Do not allow this product to contact plants in bloom while bees are foraging the treatment area.
- Do not graze treated areas or use clippings from treated areas for feed or forage.
- Do not allow runoff or puddling of irrigation water following application.
- Keep children and pets off treated area until dry.
- Do not apply Merit 2F Insecticide to areas which are water logged or saturated, which will not allow penetration into the root zone of the plant.

DIRECTIONS FOR USE ON SOD FARMS

SITE	PEST	DOSAGE MERIT 2F INSECTICIDE
TURFGRASSES (Sod Farms)	LARVAE OF: Annual bluegrass weevil Asiatic garden beetle Billbug Black turfgrass ataenius Cutworms (suppression) European chafer	European Crane Fly Green June beetle Japanese beetle Northern masked chafer Oriental beetle <i>Phyllophaga</i> spp. Southern masked chafer
	1.25 to 1.6 pt/A or 0.46 to 0.6 fl oz (14 to 17 mL) per 1,000 sq ft	
	For optimum control of grubs, billbugs, annual bluegrass weevil, and European Crane Fly make application prior to egg hatch of the target pest. Be sure to read "APPLICATION EQUIPMENT" Section of this label.	
	Chinchbugs (suppression) Mole crickets	1.6 pt/A or 0.6 fl oz (17 mL) per 1,000 sq ft
For suppression of chinch bugs, make application prior to the hatching of the first instar nymphs. For control of mole crickets make application prior to or during the peak egg hatch period. If application is not made prior to egg hatch or when adults or large nymphs are present and actively tunneling, apply Merit 2F Insecticide in combination with a remedial insecticide to minimize damage to turf. Follow label instructions for other insecticides when tank-mixing.		

Consult your local turf, state Agricultural Experiment Station, or State Extension Service Specialists for more specific information regarding timing of application.

For optimum control, if rainfall does not occur within 24 hours after application, irrigate to move the active ingredient through the thatch.

RESTRICTIONS:

- Do not apply more than 1.6 pt (0.4 lb of active ingredient) per acre per year.
- Do not allow this product to contact plants in bloom while bees are foraging the treatment area.
- Do not use for seed production.
- Do not allow runoff or puddling of irrigation water following application.
- Do not apply Merit 2F Insecticide to areas which are water logged or saturated, which will not allow penetration into the root zone of the plant.

DIRECTIONS FOR APPLICATION TO OUTDOOR ORNAMENTALS IN RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL LANDSCAPE AREAS

SITE	PEST	DOSAGE MERIT 2F INSECTICIDE
Trees Shrubs Evergreens Flowers Foliage plants Groundcovers	Adelgids (including hemlock woolly adelgid) Aphids Leaf-feeding beetles (Japanese beetle, emerald ash borer and vine weevil adults) Leaf-feeding bugs (including lace bugs, leaf bugs, and plant bugs)	Leafhoppers, planthoppers, sharpshooters (including glassy-winged sharpshooter) and spittle bugs Mealybugs Psyllids Sawfly larvae Thrips (foliage only) Whiteflies
Foliar Applications: Start treatments prior to establishment of high pest populations and reapply on an as needed basis.		1.5 fl oz (45mL) per 100 gal of water
White grub larvae (such as Japanese beetle larvae, Chafers, <i>Phyllophaga</i> spp., Asiatic garden beetle, Oriental beetle)		0.46 to 0.6 fl oz (14 to 17mL) per 1,000 sq ft
Broadcast Applications: Mix required amount of product in sufficient water to uniformly and accurately cover the area being treated. Do not use less than 2 gallons of water per 1000 sq ft. For optimum control, irrigate thoroughly to incorporate MERIT 2F Insecticide into the upper soil profile.		

RESTRICTIONS:

- Follow application restrictions for Non-Agricultural Uses on page 3 to protect bees and other insect pollinators
- Do not apply more than 1.6 pt (0.4 lb of active ingredient) per acre per year.
- Keep children and pets off treated area until dry.
- Do not apply this product, by any application method, to linden, basswood, or other Tilia species.

DIRECTIONS FOR APPLICATION TO PLANTS GROWN INDOORS

SITE	PEST	DOSAGE MERIT 2F INSECTICIDE
Interior plantscapes	Adelgids (including hemlock woolly adelgid) Aphids Leaf-feeding beetles (Japanese beetle, emerald ash borer and vine weevil adults) Leaf-feeding bugs (including lace bugs, leaf bugs, and plant bugs)	Leafhoppers, planthoppers, sharpshooters (including glassy-winged sharpshooter) and spittle bugs Mealybugs Psyllids Sawfly larvae Thrips (foliage only) Whiteflies
Foliar Applications: Start treatments prior to establishment of high pest populations and reapply on an as needed basis.		1.5 fl oz (45mL) per 100 gal of water
White grub larvae (such as Japanese beetle larvae, Chafers, <i>Phyllophaga</i> spp., Asiatic garden beetle, Oriental beetle)		0.46 to 0.6 fl oz (14 to 17mL) per 1,000 sq ft
Broadcast Applications: Mix required amount of product in sufficient water to uniformly and accurately cover the area being treated. Do not use less than 2 gallons of water per 1,000 sq ft. For optimum control, irrigate thoroughly to incorporate Merit 2F Insecticide into the upper soil profile.		

RESTRICTIONS:

- Not for use in commercial greenhouses.

DIRECTIONS FOR APPLICATION TO TREES AND SHRUBS BY SOIL DRENCH AND SOIL INJECTION				
For use in and around the perimeter of industrial and commercial buildings, in residential and recreational areas, and in municipal, city, state, national, and private wooded and forested areas.				
Trees and Shrubs		0.1 to 0.2 fl oz (3 to 6 mL) per inch of trunk diameter (D.B.H.) or per foot of shrub height		
Adelgids (including hemlock woolly adelgid) Aphids Leaf-feeding beetles (including Japanese beetle and vine weevil adults) Leaf-feeding bugs (including lace bugs, leaf bugs, and plant bugs)		Leafhoppers, planthoppers, sharpshooters (including glassy-winged sharpshooter) and spittle bugs Leafminers Mealybugs Pine tip moth larvae	Psyllids Royal palm bug Sawfly larvae Soft scales Whiteflies	
Trees and Shrubs		0.2 fl oz (6 mL) per inch of trunk diameter (D.B.H.) or per foot of shrub height		
Armored scales (including but not limited to: camellia, false oleander, Florida red, oystershell, tea, and white peach scales) Flatheaded borers (including emerald ash borer)		Roundheaded borers (including Asian longhorned beetle) Thrips (foliage only) White grub, billbug, and root weevil larvae		
Trees with a 15 inch of trunk diameter at breast height (D.B.H.) or greater		Apply the following rates as a function of tree diameter at breast height (DBH) 0.1 to 0.4 fl oz (3 to 12 mL) per inch of trunk diameter (DBH). You may use the higher rate (0.3 -0.4 fl oz) to control the pests listed below. RESTRICTION: Do not apply more than 1.6 pints (0.4 lb of active ingredient) per acre per year. DBH = is measured at 4.5 feet from the ground		
Emerald Ash Borer	Bronze birch borer	Asian Longhorned Beetle	Eucalyptus Longhorned Borer	Alder Borer
Soil Injection: GRID SYSTEM: Space holes on 2.5 foot centers, in a grid pattern, extending to the drip line of the tree. CIRCLE SYSTEM: Apply in holes evenly spaced in circles, (use more than one circle dependent upon the size of the tree) beneath the drip line of the tree extending in from that line. BASAL SYSTEM: Space injection holes evenly around the base of the tree trunk no more than 6 to 12 inches out from the base. Mix required dosage in sufficient water to inject an equal amount of solution in each hole. Maintain a low pressure and use sufficient solution for distribution of the liquid into the treatment zone. For optimum control, keep the treated area moist for 7 to 10 days. Do not use less than 4 holes per tree or shrub. Soil Drench: Uniformly apply the dosage in no less than 10 gallons of water per 1000 square feet as a drench around the base of the tree, directed to the root zone. Remove plastic or any other barrier that will stop solution from reaching the root zone.				
For Control of Specified Borers: Application to trees already heavily infested may not prevent the eventual loss of the trees due to existing pest damage and tree stress. RESTRICTION: No Soil Injection Applications Allowed in Nassau or Suffolk Counties of New York.				
GROUND TREATMENT PRE-PLANTING		0.46 to 0.6 fl oz (14 to 17 mL) per 1000 sq ft		
Apply as a broadcast treatment and incorporate into the soil before planting.				
RESTRICTION: - Do not apply more than 1.6 pints (0.4 lb of active ingredient) per acre per year. - Keep children and pets off treated area until dry. - Do not apply Merit 2F Insecticide to areas which are water logged or saturated, which will not allow penetration into the root zone of the plant. - Do not apply this product, by any application method, to linden, basswood, or other Tilia species.				

DIRECTIONS FOR FOLIAR APPLICATION TO POME FRUITS, PECANS, AND GRAPES GROWN IN RESIDENTIAL AREAS

SITE		PEST		RATE PER APPLICATION	
Pome Fruits					
Apple	Pear	Aphids (except Woolly apple aphid)	Leafminer	1.5 fl oz	6.0 fl oz/A ¹
Crabapple	Pear (oriental)	Leafhoppers (including glassywinged sharpshooter)	Mealybugs*	(45 mL)	
Loquat	Quince		San Jose scale*	per 100 gal	
Mayhaw					

Apply specified dosage as foliar spray as needed after petal-fall is complete.

For control of rosy apple aphid, apply prior to leafrolling caused by the pest.

For first generation leafminer control, make first application as soon as petal-fall is complete. Greatest leafminer control will result from the earliest possible application. For second and succeeding generations of leafminer, optimal control is obtained from applications made early in the adult flight against egg and early instar larvae. A second application may be required 10 days later if severe pressure continues or if generations are overlapping. A single application may result in suppression only.

MERIT 2F Insecticide will not control late stage larvae. For San Jose Scale, time applications to the crawler stage. Treat each generation.

For late season (preharvest) control of leafhopper species, apply MERIT 2F Insecticide while most leafhoppers are in the nymphal stage.

For optimal control of mealybug, insure good spray coverage of the trunk and scaffolding limbs or other resting sites of the mealybug.

RESTRICTIONS

- Follow application restrictions for Non-Agricultural Uses on page 3 to protect bees and other insect pollinators.
- Do not apply more than 6.0 fl oz per acre in a single application.
- Do not make more than 4 applications.
- Allow 10 or more days between applications.
- Do not apply more than 1.6 pints (0.4 lb of active ingredient) per acre per year.
- Allow at least 7 days between last application and harvest.
- * Not for use in California for control on pears.
- Keep children and pets off treated area until dry.

Pecans*		Yellow pecan aphid Black margined aphid Pecan leaf phylloxera	Pecan spittlebug Pecan stem phylloxera	1.5 fl oz (45 mL) per 100 gal	6.0 fl oz/A ¹
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Make foliar applications as pests begin to build before populations become extreme. Two applications at a 10 to 14 day interval may be required to achieve control. Scout and retreat if needed.

Thorough uniform coverage of foliage is necessary for optimal control. Addition of an organosilicone-based spray adjuvant at a rate not to exceed the adjuvant manufacturer's recommended use rate may improve coverage.

RESTRICTIONS

- Follow application restrictions for Non-Agricultural Uses on page 3 to protect bees and other insect pollinators.
- Do not apply more than a total of 18.0 fl oz of Merit 2F Insecticide per acre per year.
- Do not make more than 3 applications.
- Allow 10 or more days between applications.
- Allow at least 7 days between last application and harvest.
- Keep children and pets off treated area until dry.

¹ The amount of MERIT 2F Insecticide required per acre will depend on tree size and volume of foliage present. The rate per acre is based on a standard of 400 gallons of dilute spray solution per acre for large trees.

* Use on pecans not permitted in California unless directed by specific supplemental labeling.

Grapes		Leafhoppers (including glassywinged sharpshooter)	Mealybugs	1.5 fl oz (45 mL) per 100 gal	3.0 fl oz/A (90 mL/A)
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Apply specified dosage as a foliar spray using 200 gallons of water per acre.

RESTRICTIONS

- Follow application restrictions for Non-Agricultural Uses on page 3 to protect bees and other insect pollinators.
- Do not apply more than a total of 6.0 fl oz of Merit 2F Insecticide per acre per year.
- Allow at least 14 days between applications.
- Applications may be applied up to and including day of harvest.
- Keep children and pets off treated area until dry.

STORAGE AND DISPOSAL

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

Pesticide Storage: Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

Handle and open container in a manner as to prevent spillage. If the container is leaking, invert to prevent leakage. If container is leaking or material spilled for any reason or cause, carefully dam up spilled material to prevent runoff. Refer to Precautionary Statements on label for hazards associated with the handling of this material. Do not walk through spilled material. Absorb spilled material with absorbing type compounds and dispose of as directed for pesticides above. In spill or leak incidents, keep unauthorized people away. You may contact the Bayer Environmental Science Emergency Response Team for decontamination procedures or any other assistance that may be necessary. The Bayer Environmental Science Emergency Response Telephone No. is 1-800-334-7577 or contact Chemtrec at 1-800-424-9300.

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

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 ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available, or reconditioning, or puncture and dispose of in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

IMPORTANT: READ BEFORE USE

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of liability before using this product.

If terms are not acceptable, return the unopened product container at once. By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.

CONDITIONS: The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Bayer CropScience LP. All such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BAYER CROPSCIENCE LP MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, THAT EXTEND BEYOND THE STATEMENTS MADE ON THIS LABEL. No agent of Bayer CropScience is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BAYER CROPSCIENCE LP DISCLAIMS ANY liability whatsoever for special, incidental or consequential damages, resulting from the use or handling of this product.

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Produced for:
Bayer Environmental Science
A Division of Bayer CropScience LP
2 T. W. Alexander Drive
Research Triangle Park, NC 27709

Bayer

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SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Trade name MERIT® 0.5 G INSECTICIDE

Product code (UVP) 79231857

SDS Number 102000018463

EPA Registration No. 432-1328

Relevant identified uses of the substance or mixture and uses advised against

Use Insecticide

Restrictions on use See product label for restrictions.

Information on supplier

Supplier Bayer Environmental Science
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
USA

Responsible Department Email: SDSINFO.BCS-NA@bayer.com

Emergency telephone no.

Emergency Telephone Number (24hr/ 7 days) 1-800-334-7577

Product Information Telephone Number 1-800-331-2867

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200

This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Hazards Not Otherwise Classified (HNOC)

No physical hazards not otherwise classified.

No health hazards not otherwise classified.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
Imidacloprid	138261-41-3	0.50

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SECTION 4: FIRST AID MEASURES

Description of first aid measures

General advice	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
Inhalation	Move 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 physician or poison control center immediately.
Skin contact	Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.
Eye contact	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 physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

Most important symptoms and effects, both acute and delayed

Symptoms To date no symptoms are known.

Indication of any immediate medical attention and special treatment needed

Treatment Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable High volume water jet

Special hazards arising from the substance or mixture Hazardous decomposition products due to incomplete combustion

Advice for firefighters

Special protective equipment for firefighters Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

Further information Keep out of smoke. Fight fire from upwind position. Avoid contact with spilled product or contaminated surfaces. Do not allow water to come into direct contact with the product.

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Flash point	Not applicable
Auto-ignition temperature	No data available
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Explosivity	No data available

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions Isolate hazard area. Keep unauthorized people away. Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment.

Methods and materials for containment and cleaning up

Methods for cleaning up Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations.

Additional advice If the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal.

Reference to other sections Information regarding safe handling, see section 7.
Information regarding personal protective equipment, see section 8.
Information regarding waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle and open container in a manner as to prevent spillage. Avoid dust formation. Use only in area provided with appropriate exhaust ventilation.

Hygiene measures Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. Smoking, eating and drinking should be prohibited in the application area.
Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

Conditions for safe storage, including any incompatibilities

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Requirements for storage areas and containers

Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Imidacloprid	138261-41-3	0.7 mg/m3 (TWA)		OES BCS*

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

Exposure controls

Personal protective equipment

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

Respiratory protection

When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

Hand protection

Chemical resistant nitrile rubber gloves

Eye protection

Tightly fitting safety goggles

Skin and body protection

Wear long-sleeved shirt and long pants and shoes plus socks.

General protective measures

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

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	light tan to brown
Physical State	granular
Odor	characteristic
Odour Threshold	No data available
pH	No data available
Vapor Pressure	No data available
Vapor Density (Air = 1)	No data available
Specific Gravity	No data available
Bulk density	56 - 64 lb/ft³

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Evaporation rate	Not applicable
Boiling Point	Not applicable
Melting / Freezing Point	Not applicable
Water solubility	No data available
Minimum Ignition Energy	No data available
Decomposition temperature	No data available
Partition coefficient: n-octanol/water	No data available
Viscosity	Not applicable
Flash point	Not applicable
Auto-ignition temperature	No data available
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Explosivity	No data available

SECTION 10: STABILITY AND REACTIVITY

Reactivity

Thermal decomposition	No data available
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No hazardous reactions when stored and handled according to prescribed instructions.
Conditions to avoid	Elevated temperatures
Incompatible materials	Aluminium, Diazomethane
Hazardous decomposition products	Thermal decomposition can lead to release of: Sulphur oxides Calcium oxides

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes	Eye contact, Skin Absorption, Inhalation, Ingestion
Immediate Effects	
Eye	Mild eye irritation.
Skin	Harmful if absorbed through skin.

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Ingestion Harmful if swallowed.

Information on toxicological effects

Acute oral toxicity LD50 (male/female combined Rat) > 4,820 mg/kg

Acute inhalation toxicity LC50 (male/female combined Rat) > 5.09 mg/l
Exposure time: 4 h
Determined in the form of dust.
(actual)

Acute dermal toxicity LD50 (male/female combined Rabbit) > 2,000 mg/kg

Skin corrosion/irritation No skin irritation (Rabbit)

Serious eye damage/eye irritation Mild eye irritation. (Rabbit)

Respiratory or skin sensitisation Skin: Non-sensitizing. (Guinea pig)

Assessment STOT Specific target organ toxicity – repeated exposure

Imidacloprid did not cause specific target organ toxicity in experimental animal studies.

Assessment mutagenicity

Imidacloprid was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Imidacloprid was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH

None.

NTP

None.

IARC

None.

OSHA

None.

Assessment toxicity to reproduction

Imidacloprid caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Imidacloprid is related to parental toxicity.

Assessment developmental toxicity

Imidacloprid caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Imidacloprid are related to maternal toxicity.

Further information

Acute toxicity studies have been bridged from a similar formulation(s).

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The non-acute information pertains to the active ingredient(s).

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish	LC50 (Oncorhynchus mykiss (rainbow trout)) 211 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient imidacloprid.
Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) 85 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient imidacloprid. LC50 (Chironomus riparius (non-biting midge)) 0.0552 mg/l Exposure time: 24 h The value mentioned relates to the active ingredient imidacloprid.
Chronic toxicity to aquatic invertebrates	EC10 (Chironomus riparius (non-biting midge)): 2.09 µg/l Exposure time: 28 d The value mentioned relates to the active ingredient imidacloprid.
Toxicity to aquatic plants	EC50 (Desmodesmus subspicatus (green algae)) > 10 mg/l Growth rate The value mentioned relates to the active ingredient imidacloprid.
Toxicity to bacteria	EC50 (activated sludge) > 10,000 mg/l The value mentioned relates to the active ingredient imidacloprid.
Biodegradability	Imidacloprid: Not rapidly biodegradable
Koc	Imidacloprid: Koc: 225
Bioaccumulation	Imidacloprid: Does not bioaccumulate.
Mobility in soil	Imidacloprid: Moderately mobile in soils
Environmental precautions	Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Do not allow to get into surface water, drains and ground water.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product	Do not contaminate water, food, or feed by disposal. Dispose in accordance with all local, state/provincial and federal regulations. Follow advice on product label and/or leaflet.
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Contaminated packaging Completely empty container into application equipment, then dispose of empty container in a sanitary landfill, by incineration or by other procedures approved by state/provincial and local authorities. If burned, stay out of smoke. Follow advice on product label and/or leaflet.

RCRA Information Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.

SECTION 14: TRANSPORT INFORMATION

According to national and international transport regulations this material is not classified as dangerous goods / hazardous material.

Freight Classification: INSECTICIDES OR FUNGICIDES, N.O.I., OTHER THAN POISON

SECTION 15: REGULATORY INFORMATION

EPA Registration No. 432-1328
US Federal Regulations
TSCA list
Calcium lignosulfonate 8061-52-7
US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
Not applicable.
SARA Title III - Section 302 - Notification and Information
None.
SARA Title III - Section 313 - Toxic Chemical Release Reporting
None.
US States Regulatory Reporting
CA Prop65
This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

US State Right-To-Know Ingredients

Calcium sulfate dihydrate (gypsum)	10101-41-4	MN, RI
Sodium aluminium silicate	1344-00-9	CA, MN

EPA/FIFRA Information:

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification

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criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information required on the pesticide label:

Signal word: Caution!

Hazard statements: Harmful if swallowed or absorbed through skin.
Causes eye irritation.
Avoid contact with skin, eyes and clothing.
Wash thoroughly with soap and water after handling.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms

49CFR	Code of Federal Regulations, Title 49
ACGIH	US. ACGIH Threshold Limit Values
ATE	Acute toxicity estimate
CAS-Nr.	Chemical Abstracts Service number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
N.O.S.	Not otherwise specified
NTP	US. National Toxicology Program (NTP) Report on Carcinogens
OECD	Organization for Economic Co-operation and Development
TDG	Transportation of Dangerous Goods
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

NFPA 704 (National Fire Protection Association):

Health - 1 Flammability - 1 Instability - 1 Others - none

HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 1 Flammability - 1 Physical Hazard - 1 PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason for Revision: The following sections have been revised: Section 2: Hazards Identification.
Section 3: Composition / Information on Ingredients. Section 8: Exposure Controls / Personal Protection.
Section 14: Transport Information. Reviewed and updated for general editorial purposes.

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