GROUP	4A	INSECTICIDE

Safari®

20 SG INSECTICIDE

FOR FOLIAR AND SYSTEMIC INSECT CONTROL IN ORNAMENTAL PLANTS AND VEGETABLE TRANSPLANTS IN ENCLOSED STRUCTURES.

FOR GREENHOUSE, NURSERY, INTERIOR PLANTSCAPE, OUTDOOR LANDSCAPE AND FORESTRY USE ONLY.

Active Ingredient:	
Dinotefuran, [N-methyl-N'-nitro-N"-((tetrahydro-3-furanyl)methyl)guanidine]	20%
Other Ingredients	80%
Total	100%

EPA Reg. No. 86203-11-59639 EPA Est. 67545-AZ-01

KEEP OUT OF REACH OF CHILDREN

CAUTION

SEE BELOW FOR ADDITIONAL PRECAUTIONARY STATEMENTS.

FIRST AID

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 further treatment advice.

If swallowed: Call poison control center or doctor immediately for treatment advice.
Do not induce vomiting unless told to do so by the poison control center or doctor.
Have person sip a glass of water if able to swallow.
Do not give anything by mouth to an unconscious person.

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FIRST AID (continued)

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 further 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 poison control center or doctor for further treatment advice.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact **800-892-0099** for emergency medical treatment information.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if swallowed or absorbed through skin. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Causes moderate eye irritation. Remove and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Applicators and other handlers must wear:
- Long-sleeved shirt and long pants
- Shoes plus socks

USER SAFETY REQUIREMENTS

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

USER SAFETY RECOMMENDATIONS

Users should:
- Wash hands with soap and water before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This pesticide is 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 apply when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in water adjacent to treated areas. Do not dispose equipment washwaters or rinsate into a natural drain or water body.

This product is toxic to honey bees. The persistence of residues and potential residual toxicity of dinotefuran in nectar and pollen suggests the possibility of chronic toxic risk to honey bee larvae and the eventual instability of the hive.

- This product is toxic to bees exposed to residues for more than 38 hours following treatment.
- Do not apply this product to blooming, pollen-shedding or nectar-producing parts of plants if bees may forage on the plants during this time period, unless the application is made in response to a public health emergency declared by appropriate state or federal authorities.

Dinotefuran and its degradate, MNG, have the properties and characteristics associated with chemicals detected in groundwater. The high water solubility of dinotefuran, and its degradate, MNG, coupled with its very high mobility, and resistance to biodegradation indicates that this compound has a strong potential to leach to the subsurface under certain conditions as a result of label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

PHYSICAL OR CHEMICAL HAZARDS

Do not use, pour, spill or store near heat or open flame.

SPRAY DRIFT ADVISORY

Do not apply under conditions involving possible drift to food, forage or other plantings that might be damaged or the crop thereof rendered for sale, use or consumption.

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.

(continued)

PROTECTION OF POLLINATORS (continued)

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. 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.

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

FOR COMMERCIALLY GROWN ORNAMENTALS NOT UNDER CONTRACT FOR POLLINATION SERVICES BUT ARE ATTRACTIVE TO POLLINATORS

- **Do not apply this product while bees are foraging.**
- **This product is toxic to bees exposed to residue for more than 38 hours following treatment.**
- **Do not apply this product to blooming, pollen-shedding or nectar-producing parts of plants if bees may forage on the plants during this time period, unless the application is made in response to a public health emergency declared by appropriate state or federal authorities.**

NON-AGRICULTURAL USES

Do not apply Safari® 20 SG Insecticide while bees are foraging. Do not apply *Safari* 20 SG Insecticide to plants that are flowering. Only apply after all flower petals have fallen off.

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.

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, greenhouses and handlers of agricultural insecticides. 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 product is drenched or soil-injected, workers may enter the area at any time 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
- Shoes plus socks
- Chemical-resistant gloves (made of any waterproof material)

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.

Do not allow others to enter treated areas until sprays have dried.

APPLICATION INFORMATION

- Applications of *Safari* 20 SG Insecticide in residential areas may be made by commercially licensed applicators.

Application to Ornamental Plants (including Forestry):

- *Safari* 20 SG Insecticide can be applied as a foliar spray, a broadcast spray, a soil drench, soil injection and via chemigation for insect control in ornamental plants in greenhouses, nurseries, outdoor landscapes and interior plantscapes.
- *Safari* 20 SG Insecticide is a systemic product and will be taken up by the root system and translocated upward throughout the plant. When applied as a foliar spray, the product offers translaminar and locally systemic control of foliar pests.
- When applied to the soil, *Safari* 20 SG Insecticide will be translocated more quickly in herbaceous plants than in woody shrubs and trees. Speed of insect control will range from as little as one day for small herbaceous plants in containers, to several weeks in large trees growing in the landscape.
- Do not apply more than a total of 2.7 lbs of product (0.54 lb active ingredient) per acre per year for all application types.
- **Do not apply this product, by any application method, to linden, basswood or other *Tilia* species.**

Application to Vegetable Transplants:

- *Safari* 20 SG Insecticide can be applied as a foliar spray or a broadcast spray for insect control in vegetable transplants.
- Do not apply more than 1.34 lbs (0.268 lbs ai) per acre of nursery per year.

MIXING INSTRUCTIONS:

Safari 20 SG Insecticide Alone: Add half of the required amount of water to the mix tank. With the agitator running, add the desired amount of *Safari* 20 SG Insecticide to the tank. Continue agitation while adding the remainder of the water. Begin application of the solution after *Safari* 20 SG Insecticide has completely dispersed into the mix water. Maintain agitation until all of the mixture has been applied.

Safari 20 SG Insecticide + Tank Mixtures: Add half of the required amount of water to the mix tank. Start the agitator running before adding any tank mix partners. In general, add tank mix partners in this order: products packaged in water-soluble packaging, wettable powders, wettable granules (dry flowables), liquid flowables, liquids, emulsifiable concentrates, and surfactants/adjuvants. Always allow each tank

mix partner to become fully dispersed before adding the next product. Provide sufficient agitation while adding the remainder of the water. Maintain agitation until all the mixture has been applied.

NOTE: When using *Safari* 20 SG Insecticide in tank mixtures, add all products in water-soluble packaging to the tank before any other tank mix partner, including *Safari* 20 SG Insecticide. Allow the water-soluble packaging to completely dissolve and the product(s) to completely disperse before adding any other tank mix partner to the tank.

If using *Safari* 20 SG Insecticide in a tank mixture, observe all directions for use, crop/sites, use rates, dilution ratios, precautions, and limitations which appear on the tank mix product label. Do not exceed label dosage rate, and follow the most restrictive label precautions and limitations. Do not mix this product with any product that prohibits such mixing. Tank mixtures or other applications of products referenced on this label are permitted only in those states in which the referenced products are labeled.

Compatibility

IMPORTANT: The safety of all potential tank mixes has not been tested on all crops. Before applying any tank mixture not specifically listed on this label, confirm the safety to the target crop.

Safari 20 SG Insecticide is compatible with most commonly used pesticides, crop oils, adjuvants, and nutritional sprays. However, since it is not possible to test all possible mixtures, pre-test to assure the physical compatibility and lack of phytotoxic effect of any proposed mixtures with *Safari* 20 SG Insecticide. To determine the physical compatibility of *Safari* 20 SG Insecticide with other products, use a jar test, as described below:

Using a quart jar, add the proportionate amounts of the products to 1 quart of water. Add wettable powders and water dispersible granular products first, then liquid flowables, and emulsifiable concentrates last. After thoroughly mixing, let stand for at least 5 minutes. If the combination remains mixed or can be remixed readily, it is physically compatible. Once compatibility has been proven, use the same procedure for additional required ingredients to the spray tank.

RESISTANCE MANAGEMENT

Safari 20 SG Insecticide contains a Group 4A insecticide. Insect biotypes with acquired resistance to Group 4A may eventually dominate the insect population if Group 4A insecticides are used repeatedly in the same crop or in successive years as the primary method of control for a targeted species. This may result in partial or total loss of control of those species by *Safari* 20 SG Insecticide or other Group 4A insecticides.

To delay the development of insecticide resistance in greenhouse, nursery and interiorscape use sites, strongly consider the following guidelines:

- Do not apply *Safari* 20 SG Insecticide or other Group 4A insecticides to consecutive generations of the same insect pest species.
- Do not drench soil media with *Safari* 20 SG Insecticide or other Group 4A insecticides more than one time per crop cycle or three months, whichever is shorter.
- Do not make more than two foliar or broadcast sprays of *Safari* 20 SG Insecticide or other Group 4A insecticides to a single crop during a two-month period.
- Do not make more than one soil drench and one foliar or broadcast spray with *Safari* 20 SG Insecticide or other Group 4A insecticides during a two-month period.
- Base insecticide use on a comprehensive IPM program.
- Monitor treated insect populations for loss of field efficacy.
- Contact your local extension specialist, certified crop advisors, and/or manufacturers for insecticide resistance management and/or IPM guidelines for the specific site and resistant pest problems.
- For further information or to report suspected resistance, you may contact Valent U.S.A. Corporation, at toll free number: 1-800-898-2536.

APPLICATION PROCEDURES AND SPRAY EQUIPMENT

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

Apply *Safari* 20 SG Insecticide using sufficient water volume to provide thorough and uniform coverage. In situations where a dense canopy exists and/or pest pressure is high, use greater water volumes. The use of a spray adjuvant may improve spray coverage. Do not apply under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur.

Applications to ornamental plants, forestry and vegetable transplants: *Safari* 20 SG Insecticide can be

applied using many different types of application equipment. Apply in sufficient water to ensure good coverage of ornamental plants. Tank mixing with a surfactant will produce better coverage when making applications to plants with hard to wet foliage such as holly or pine. If concentrate or mist type spray equipment is used, apply the same amount of product on the sprayed area as would be used in a dilute solution. To assure optimum effectiveness, the product must be placed where the growing portion of the target plant can absorb the active ingredient. Applications can be made to foliage or as a soil drench.

RESTRICTIONS

- With the exception of non-livestock animals, do not graze treated areas or use clippings from treated areas for feed or forage.
- Prevent runoff or puddling of irrigation water following application.
- Keep children and pets off treated areas until spray has dried.
- Do not apply to areas that are water logged or saturated, or frozen, which will not allow penetration into the root zone of the plant.

APPLICATION THROUGH IRRIGATION SYSTEMS (CHEMIGATION):

Safari 20 SG Insecticide may be applied by injection into an irrigation system, either alone or in combination with other pesticides or chemicals that are registered for application through irrigation systems. Dilution ratios are normally 1:100 to 1:200, depending on the system. Apply this product only through microirrigation (individual spaghetti tube), drip irrigation, overhead irrigation, or motorized calibrated irrigation equipment (Ornamentals). Do not apply through any other type of irrigation system. Lack of effectiveness can result from non-uniform distribution of treated water. If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers, or other experts. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make adjustments when necessary.

Using Water from Public Water Systems:
DO NOT APPLY *Safari* 20 SG INSECTICIDE THROUGH ANY IRRIGATION SYSTEM PHYSICALLY CONNECTED TO A PUBLIC WATER SYSTEM.

Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days per year. *Safari* 20 SG Insecticide may be applied through irrigation systems which may be supplied by a public water system only if the water from the public water system is discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and to top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. Before beginning chemigation, always make sure that the air gap exists and that there is no blockage of the overflow of the reservoir tank.

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

Operating Instructions for Irrigation Systems:

1. The system must be calibrated to uniformly apply the rates specified. If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers, or other experts.
2. The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
4. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
6. The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
7. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
8. Do not apply when wind speed favors drift beyond the area intended.

Calibration and Application Instructions:

Apply *Safari* 20 SG Insecticide under the schedule specified in the specific use instructions, not according to the irrigation schedule unless the events coincide. In general, set the equipment to apply the minimum amount of water per acre. Run the system at 86-90% of the manufacturer's maximum rated travel speed.

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

MINIMIZING SPRAY DRIFT

As with all crop protection products, it is important to minimize off-target movement. Do not allow spray to drift onto adjacent land, crops, or aquatic areas. To minimize spray drift:

1. Make applications when wind velocity favors on-target product deposition (approximately 3 to 10 mph). Do not apply when wind velocity exceeds 10 mph. Do not apply when wind gusts approach 10 mph.
2. Risk of exposure to sensitive aquatic areas can be reduced by not applying when wind direction is toward the aquatic area.
3. Do not cultivate or plant crops within 25 feet of the aquatic area as to allow growth of a vegetative filter strip.
4. Do not make applications during temperature inversions. Inversions are characterized by stable air and increasing temperatures with increased height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.
5. Use the largest droplet size consistent with good pest control. Small droplets are more prone to spray drift and can be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible, and by not using excessive spray boom pressure.
6. Apply as close to target plants as practical to obtain a good spray pattern for adequate coverage. Do not apply more than 10 ft above the crop canopy.
7. For aerial applications, mount spray boom on the aircraft so as to minimize drift caused by wing tip vortices. Use minimum practical boom length and do not use boom that exceeds 75% of wing span or rotor diameter.

Air Assisted (Air Blast) Tree and Vine Sprayers (Ornamentals Only):

Air assisted tree and vine sprayers carry droplets into the canopy of trees and vines via a radially or laterally directed air stream. In addition to the general drift management principles already described, the following specific practices will further reduce the potential for drift:

1. Adjust deflectors and aiming devices so that spray is only directed into the canopy.
2. Block off upward pointed nozzles when there is no overhanging canopy.
3. Use only enough air volume to penetrate the canopy and provide good coverage. Use a minimum of 50 gallons finished spray per acre.
4. Do not allow spray to go beyond the edge of the cultivated area. Spray the outside row only from outside the planting.

VEGETABLE TRANSPLANTS (IN ENCLOSED STRUCTURES) FOLIAR OR BROADCAST SPRAY APPLICATION
For foliar insect control on vegetable transplants grown in enclosed structures.

Crops	Pests	Product Rate (By Weight)	Remarks
Cucurbits (Transplants only) Cantaloupe Cucumber Melons Squash Fruiting Vegetables Eggplant Peppers Tomato Head and Stem Brassica Broccoli Brussels Sprouts Cabbage Cauliflower Kohlrabi	Aphids Leafminers Mealybugs Thrips (suppression) Whiteflies including: Silverleaf/ Sweetpotato (B and Q Biotypes)	3.5-7.0 oz per 100 gal 7 - 14 oz per Acre 0.16-0.32 oz per 1,000 sq ft (0.09 to 0.18 lbs ai per Acre)	Do not make more than one application per crop. Apply only to cucurbits and brassica being grown as transplants and before transplants are sold. 100 gals of spray mix will treat 20,000 sq ft of area when using a typical high volume sprayer. If using a low volume sprayer, adjust concentration to apply the same amount of product per unit area.
Leafy Vegetables (Transplants only) (Excluding *Brassica* spp.)	Aphids Leafminers Mealybugs Thrips (suppression) Whiteflies including: Silverleaf/ Sweetpotato (B and Q Biotypes)	3.5-5.5 oz per 100 gal 7-11 oz per Acre 0.16-0.25 oz per 1,000 sq ft (0.09 to 0.134 lbs ai per Acre)	Do not make more than one application per crop. Apply only to leafy vegetables being grown as transplants and before transplants are sold. 100 gals of spray mix will treat 20,000 sq ft of area when using a typical high volume sprayer. If using a low volume sprayer, adjust concentration to apply the same amount of product per unit area.

One (1) level teaspoon contains 2.4 grams and 1 cup (8 fl oz) contains 4.0 oz by weight of *Safari* 20 SG Insecticide.

Begin applications when first pest activity is noticed or when insects reach threshold levels per University/Extension recommendations. Time application before a damaging population becomes established.

Restriction:
Do not apply more than 1.34 lbs (0.268 lbs ai) per acre of nursery per year.

To delay the development of resistance: Do not apply *Safari* 20 SG Insecticide or other Group 4A insecticides to consecutive generations of the same insect species without switching to a different mode of action. Do not make more than two sprays of *Safari* 20 SG Insecticide or other Group 4A insecticides to a single crop. Refer to "Resistance Management" section of label for further guidelines.

ORNAMENTAL PLANTS AND FORESTS – FOLIAR OR BROADCAST SPRAY APPLICATION – OUTDOOR

For foliar insect control on ornamental plants in nurseries, outdoor landscapes (commercial, industrial, recreational and residential), tree plantations, reforestation nurseries and forests.

Crops	Pests	Product Rate	Remarks
Ornamental plants including: Shrubs Bedding Plants Flowering Plants Foliage Plants Ground Covers Evergreens Ornamental Trees Non-Bearing Fruit Trees Non-Bearing Nut Trees Non-Bearing Vines Christmas Trees Trees in Plantations including: Conifers Deciduous trees Reforestation Nurseries Forests and Wooded Areas: National, Private and State	Adelgids including: Hemlock Woolly, Balsam Woolly Aphids (suppression) including: Balsam, Crepe Myrtle, Green Peach Melon Japanese Beetles (adults) Lacebugs including: Azalea, Cotoneaster, Hawthorne Rhododendron Leaf Beetles, Viburnum Leafhoppers, including: Glassy-Winged Sharpshooter, Potato Leafminers including: Serpentine Mealybugs including: Citrus, Long-Tailed, Madeira, Obscure, Phormium, Pink Hibiscus Psyllids including: Asian Citrus Root Weevils (adults) including: Black Vine, Diaprepes Sawflies (larvae) Scale (Armored and Soft) including: Cryptomeria, Cycad Aulacaspis, Elongate Hemlock, Euonymus, Florida Red, Florida Wax, Tea Thrips including: Chilli, Gynaikothrips uzeli, Western Flower (suppression) Whiteflies including: Fig (Ficus), Giant, Greenhouse, Silverleaf / Sweetpotato (B and Q Biotypes)	**Foliar Spray** 1/4 to 1/2 lb per 100 gallons (4 to 8 oz per 100 gallons) (0.05 to 0.1 lbs ai per 100 gallons) 8-16 oz per Acre (0.1 to 0.2 lbs ai/A) 0.2-0.4 oz per 1,000 sq ft For treatment of small areas: 1/2-1.0 tsp per gallon	Make first application just before pest populations reach an economic threshold. If necessary, make a second application after 14-21 days. Tank mixing with a surfactant may improve control of pests such as whitefly, mealybug and scale. Confirm plant safety of tank mix in small area before using on a commercial scale. 100 gals of spray mix will treat 20,000 sq ft of area when using a typical high volume sprayer. If using a low volume sprayer, adjust concentration to apply the same amount of product per unit area.

One (1) level teaspoon contains 2.4 grams and 1 cup (8 fl oz) contains 4.0 oz by weight of *Safari* 20 SG Insecticide.

Make first application just before pest populations reach an economic threshold. If necessary, make a second application after 14-21 days.

Restrictions:
Not for use on house plants grown inside private residences.

Do not apply more than 2.7 lbs (0.54 lbs ai) per acre of nursery, landscape or forest per year.

To delay the development of resistance: Do not apply *Safari* 20 SG Insecticide or other Group 4A insecticides to consecutive generations of the same insect species without switching to a different mode of action. Do not make more than two sprays of *Safari* 20 SG Insecticide or other Group 4A insecticides to a single crop. Refer to "Resistance Management" section of label for further guidelines.

ORNAMENTAL PLANTS – FOLIAR OR BROADCAST SPRAY APPLICATION – INDOOR

For foliar insect control on ornamental plants in greenhouses, interior plantscapes, lath and shadehouses.

Crops	Pests	Product Rate	Remarks
Ornamental plants including: Shrubs Bedding Plants Flowering Plants Foliage Plants Ground Covers Evergreens Ornamental Trees Non-Bearing Fruit Trees Non-Bearing Nut Trees Non-Bearing Vines	Adelgids including: Hemlock Woolly, Balsam Woolly Aphids (suppression) including: Balsam, Crepe Myrtle, Green Peach Melon Japanese Beetles (adults) Lacebugs including: Azalea, Cotoneaster, Hawthorne Rhododendron Leaf Beetles, Viburnum Leafhoppers, including: Glassy-Winged Sharpshooter, Potato Leafminers including: Serpentine Mealybugs including: Citrus, Long-Tailed, Madeira, Obscure, Phormium, Pink Hibiscus Psyllids including: Asian Citrus Root Weevils (adults) including: Black Vine, Diaprepes Sawflies (larvae) Scale (Armored and Soft) including: Cryptomeria, Cycad Aulacaspis, Elongate Hemlock, Euonymus, Florida Red, Florida Wax, Tea Thrips including: Chilli, *Gynaikothrips uzeli*, Western Flower (suppression) Whiteflies including: Fig (Ficus), Giant, Greenhouse, Silverleaf / Sweetpotato (B and Q Biotypes)	**Foliar Spray** 1/4 to 1/2 lb per 100 gallons (4 to 8 oz per 100 gallons) (0.05 to 0.1 lbs ai per 100 gallons) 8-16 oz per Acre (0.1 to 0.2 lbs ai/A) 0.2-0.4 oz per 1,000 sq ft For treatment of small areas: 1/2-1.0 tsp per gallon	Make first application just before pest populations reach an economic threshold. If necessary, make a second application after 14-21 days. Tank mixing with a surfactant may improve control of pests such as whitefly, mealybug and scale. Confirm plant safety of tank mix in small area before using on a commercial scale. 100 gals of spray mix will treat 20,000 sq ft of area when using a typical high volume sprayer. If using a low volume sprayer, adjust concentration to apply the same amount of product per unit area.

One (1) level teaspoon contains 2.4 grams and 1 cup (8 fl oz) contains 4.0 oz by weight of *Safari* 20 SG Insecticide.

Make first application just before pest populations reach an economic threshold. If necessary, make a second application after 14-21 days.

Restrictions:

Not for use on house plants grown inside private residences.

Do not apply more than 2.7 lbs (0.54 lbs ai) per acre of nursery or landscape per year.

To delay the development of resistance: Do not apply *Safari* 20 SG Insecticide or other Group 4A insecticides to consecutive generations of the same insect species without switching to a different mode of action. Do not make more than two sprays of *Safari* 20 SG Insecticide or other Group 4A insecticides to a single crop. Refer to "Resistance Management" section of label for further guidelines.

ORNAMENTAL PLANTS AND FORESTS – APPLICATION TO SOIL: For systemic insect control on containerized and field grown (in-ground) ornamental plants in nurseries, greenhouses, interior plantscapes, lath and shadehouses, outdoor landscapes (commercial, industrial, recreational and residential), tree plantations, reforestation nurseries and forests when applied via soil drench, soil injection, micro-irrigation (spaghetti tube or emitter), drip irrigation, overhead irrigation, ebb and flood irrigation equipment or motorized irrigation equipment.

<table>
<tr><th>Crops</th><th>Pests</th><th>Product Rate (By Weight)</th><th>Remarks</th></tr>
<tr>
<td rowspan="2">Ornamental plants including:
Shrubs
Bedding Plants
Flowering Plants
Foliage Plants
Ground Covers
Evergreens
Ornamental Trees
Non-Bearing Fruit Trees
Non-Bearing Nut Trees
Non-Bearing Vines
Christmas Trees
Trees in Plantations including:
Conifers
Deciduous Trees
Reforestation Nurseries
Forests and Wooded Areas: National, Private and State</td>
<td rowspan="2">Adelgids including:
Hemlock Woolly
Balsam Woolly
Aphids including:
Balsam
Crepe Myrtle
Green Peach
Melon
Bagworms
Eastern Tent Caterpillar
Erythinia Gall Wasp
Flatheaded Borers including:
Alder
Bronze Birch
Emerald Ash
Flatheaded Appletree
Two-Lined Chestnut
Froghoppers
Fungus Gnats (larvae)
Gypsy Moth (larvae)
Horned Oak Gall
(continued)</td>
<td>Containerized Plants
Soil Media Drench
3/4 to 1-1/2 pounds per 100 gallons
12 to 24 ounces per 100 gallons
1.5-3.0 teaspoons per gallon

Media Drench Volume for Individual Pots
<table>
<tr><th>Pot diameter (inches)</th><th>Fl oz of dilute solution per pot</th></tr>
<tr><td>4</td><td>2</td></tr>
<tr><td>5</td><td>3</td></tr>
<tr><td>6</td><td>4</td></tr>
<tr><td>7</td><td>5</td></tr>
<tr><td>8</td><td>6</td></tr>
</table>
For larger pot volumes, apply 3-4 fl oz of dilute solution (0.11 to 0.22 g product per 4 fl oz water) per gallon of potting media. Use a drench volume that is sufficient to wet soil media without resulting in overflow or runoff through drain holes in pot.

Containerized Plants
Media Drench Volume for Plants in Raised Beds, Benches, Bedding Flats, Plug and Liner Trays: Apply sufficient dilute solution to wet soil media without loss of liquid from bottom of bed or liner.</td>
<td>Only apply to moist soil media. Do not apply to dry or saturated media.

Do not apply media drench until roots from transplanted plugs or liners have extended at least half way to the edge of pots.

Do not leach treated soil media for at least 7 days after application or performance may be reduced.

Heavy rainfall or excessive irrigation following application may decrease performance.

Higher rates will be needed to control insects on woody plants than on herbaceous plants.

Poinsettia: For optimal control of whiteflies, treat plants 1-3 weeks after pinch. Late season drenches will take longer to provide effective control.</td>
</tr>
</table>

(continued)

ORNAMENTAL PLANTS AND FORESTS – APPLICATION TO SOIL (continued)

<table>
<tr><th>Crops</th><th>Pests</th><th colspan="2">Product Rate (By Weight)</th><th>Remarks</th></tr>
<tr><td rowspan="3">Ornamental plants including:
Shrubs
Bedding Plants
Flowering Plants
Foliage Plants
Ground Covers
Evergreens
Ornamental Trees
Non-Bearing Fruit Trees
Non-Bearing Nut Trees
Non-Bearing Vines
Christmas Trees
Trees in Plantations including:
Conifers
Deciduous Trees
Reforestation Nurseries
Forests and Wooded Areas: National, Private and State</td><td rowspan="3">(continued)
Japanese Beetle (adults)
Lacebugs including:
Azalea
Cotoneaster
Hawthorne
Rhododendron
Leaf Beetles including:
Elm
Viburnum
Leafhoppers including:
Glassy-Winged Sharpshooter
Potato
Leafminers including:
Birch
Boxwood
Chrysanthemum
Holly
Serpentine
(continued)</td><td colspan="2">Containerized Plants
Ebb and Flood Irrigation</td><td rowspan="2">Bring several pots to field capacity, let soil dry and then measure amount of water required to bring pots back to field capacity. Multiply the average volume of water required to rehydrate one pot by the number of pots to be treated. Add this volume of water to the minimum amount of water needed to flood the area to be treated. Re-use any returned volume in subsequent irrigation of same plants.
For pot diameter greater than 8”, use 3.7-7.5 ounces of Safari 20 SG Insecticide per 1,000 gallons of potting soil media.</td></tr>
<tr><td>Pot diameter (inches)</td><td>Ounces per 1,000 pots</td></tr>
<tr><td>4
5
6
7
8</td><td>1.9-3.7
2.8-5.6
3.7-7.5
4.7-9.3
5.6-11.2</td></tr>
<tr><td></td><td></td><td colspan="2">Chemigation of individual containers using a micro-irrigation system (spaghetti tube)</td><td rowspan="2">Use typical injection ratio for injectors (e.g. 1:100, which equals 1 part injector tank solution: 100 parts irrigation water). Do not mix more than 24 oz of Safari 20 SG Insecticide per gallon of injector tank water, or some product may settle out of solution. Calibrate irrigation system to deliver 3-4 fl oz of dilute solution per gallon of potting media.</td></tr>
<tr><td></td><td></td><td>Injection ratio</td><td>Ounces per gallon of injector tank water</td></tr>
<tr><td></td><td></td><td>1:100</td><td>12-24</td></tr>
</table>

(continued)

ORNAMENTAL PLANTS AND FORESTS – APPLICATION TO SOIL (continued)

Crops	Pests	Product Rate (By Weight)	Remarks
Ornamental plants including: Shrubs Bedding Plants Flowering Plants Foliage Plants Ground Covers Evergreens Ornamental Trees Non-Bearing Fruit Trees Non-Bearing Nut Trees Non-Bearing Vines Christmas Trees Trees in Plantations including: Conifers Deciduous Trees Reforestation Nurseries Forests and Wooded Areas: National, Private and State	(continued) Mealybugs: Citrus Longtailed Madeira Obscure Phormium Pink Hibiscus Root Mimosa Webworm (larvae) Peachtree Borer Pine Tip Moth (larvae) Plantbugs Psyllids including: Asian Citrus Boxwood Root Weevils (larvae and adults) including: Black Vine Diaprepes (continued)	**Field Grown (In-Ground) Shrubs** 3-6 grams (1.25-2.5 level teaspoons) per foot of height 1.0-2.1 ounces per 10 feet of height	When applied to the soil, *Safari* 20 SG Insecticide is taken up by actively growing trees and shrubs. Speed of control will be dependent on plant size, plant health, environmental conditions and how actively pests are feeding. In actively growing plants, control may be evident within 1-3 weeks after application depending on plant size. Time applications to coincide with when most vulnerable pest life stage is present on plants. Control may be less effective when applied to dry, saturated, or frozen soil, or at times when plants are not actively taking up water from soil. If possible, irrigate dry soils 1-3 days before application, or apply irrigation within 3 days after application. Heavy rainfall or inadequate irrigation immediately following application may decrease performance. Use higher labeled rates for broadleaf evergreens with dense foliage (ex. hollies), and with very large trees. **Soil Drench:** Mix required dose in water and uniformly apply to soil around base of shrub or tree. Pull back mulch before drenching. Apply 1-4 pints of drench solution per foot of height (shrubs) or inch of trunk diameter (trees). Adjust drench volume based on soil type, soil moisture and thickness of mulch so that product is moved into root zone. To enhance soil penetration in heavy soils and sloping terrain, dig shallow holes around tree or shrub, and apply drench solution in holes. Lower drench volumes may be less effective in dry soils or when applied over heavy mulch unless there is adequate rainfall or irrigation after application to move product into root zone.

(continued)

ORNAMENTAL PLANTS AND FORESTS – APPLICATION TO SOIL (continued)

Crops	Pests	Product Rate (By Weight)	Remarks
Ornamental plants including: Shrubs Bedding Plants Flowering Plants Foliage Plants Ground Covers Evergreens Ornamental Trees Non-Bearing Fruit Trees Non-Bearing Nut Trees Non-Bearing Vines Christmas Trees Trees in Plantations including: Conifers Deciduous Trees Reforestation Nurseries Forests and Wooded Areas: National, Private and State	(continued) Roundheaded Borers (excluding Asian Longhorned) Eucalyptus Longhorned Linden Locust Royal Palm Bug Sawfly larvae Scales (Armored and Soft) including: Azalea Bark Brown Soft Calico California Red Cottony Cushion Cottony Maple Cryptomeria Cycad Aulacaspis Duplachionaspis Elongate Hemlock Euonymus False Florida Red False Oleander (continued)	**Field Grown (In-Ground) Trees (Less than 24" diameter at breast height)** 3-12 grams (1.25-5.0 level teaspoons) per inch of trunk diameter at breast height (DBH) 1.05-4.2 ounces per 10 inches of trunk diameter at breast height (DBH) For multi-stem trees, base rate on cumulative inches of diameter of all stems at breast height.	Soil Injection: Mix required dose in water and make at least four injections per shrub or tree with a low-pressure applicator. Use same amount of solution per hole. Injections can be made using the following methods: Grid System – Space injections on a 2.5 ft center extending to drip line. Circle System – Make injections in concentric circles extending inward from drip line. Basal System – Space injections evenly around trunk no more than 24" out from the base. *Safari* 20 SG Insecticide may be soil injected with low volume (e.g. Kioritz injector) or high volume injection equipment. Inject 1-32 fl oz of dilute solution per foot of height or inch of trunk diameter depending on application equipment. Make shallow injections where feeder roots are most concentrated.
		Field Grown (In-Ground) Trees (24" diameter or greater at breast height) 6-12 grams (2.5-5.0 level teaspoons) per inch of trunk diameter at breast height (DBH) 2.1-4.2 ounces per 10 inches of trunk diameter at breast height (DBH) For multi-stem trees, base rate on cumulative inches of diameter of all stems at breast height.	
		Hedges 0.25-1.0 oz per foot of hedge height per 100 linear feet of hedge row	Apply in enough water to wet the lower 12" of trunk and surrounding soil surface. Apply in a one foot wide band over base of trunk and soil down center of hedgerow. To improve performance, rake back mulch before application.

(continued)

ORNAMENTAL PLANTS AND FORESTS – APPLICATION TO SOIL (continued)

<table>
<tr><th>Crops</th><th>Pests</th><th>Product Rate (By Weight)</th><th>Remarks</th></tr>
<tr><td rowspan="8">Ornamental plants including:
Shrubs
Bedding Plants
Flowering Plants
Foliage Plants
Ground Covers
Evergreens
Ornamental Trees
Non-Bearing Fruit Trees
Non-Bearing Nut Trees
Non-Bearing Vines
Christmas Trees
Trees in Plantations including:
Conifers
Deciduous Trees
Reforestation Nurseries
Forests and Wooded Areas: National, Private and State</td><td rowspan="8">Scales (Armored and Soft) (continued)
Fig (Ficus) Wax
Fletcher
Florida Red
Florida Wax
Indian Wax
Lecanium
Lobate Lac
Melanaspis deklei
Obscure
Oystershell
Poplar (Aspen)
Pine Needle
Tea
Tuliptree
Spittlebugs
Tent Caterpillar (larvae)
Thrips including:
Chilli (suppression)
Citrus
Cuban Laurel
Gladiolus
Gynaikothrips uzeli (suppression)
Western Flower (suppression)
Treehoppers
Walnut Twig Beetle
Whiteflies including:
Ficus
Giant Greenhouse
Silverleaf / Sweetpotato (B and Q Biotypes)
White Grubs including:
Oriental Beetle
White Pine Weevil</td><td colspan="2">Field Grown Nursery Stock
Banded spray application to soil surface
(2.7 lbs per acre)</td><td rowspan="8">Apply as a uniform band in row over root zone and lower 6-12” of trunk. Apply from peak adult flight to peak egg hatch.
Apply in at least two gallons of water per 1,000 linear feet. Irrigate after application to move product into soil profile.
Control any weeds in treated area prior to application, or performance may be reduced.
Adjust rates accordingly for other row spacing. Irrigate after application to move Safari 20 SG Insecticide to the root zone.</td></tr>
<tr><td>Row spacing in feet</td><td>Ounces per 1,000 linear feet of row</td></tr>
<tr><td>3</td><td>3</td></tr>
<tr><td>4</td><td>4</td></tr>
<tr><td>5</td><td>5</td></tr>
<tr><td>6</td><td>6</td></tr>
<tr><td>7</td><td>7</td></tr>
<tr><td>8</td><td>8</td></tr>
<tr><td colspan="2">Broadcast spray to soil of plant beds
(2.7 lbs per acre)</td><td>Apply over the top of ornamental plant beds in a water volume sufficient to move product to soil surface. If necessary, irrigate after application to move product off of foliage and into upper root zone of soil. May be less effective on large woody shrubs than on herbaceous annuals and perennials.</td></tr>
</table>

Important Notes:
One (1) level teaspoon contains 2.4 grams, and 1 cup (8 fl oz) contains 4.0 oz by weight of *Safari* 20 SG Insecticide.

For all soil applications, including chemigation, retreatments may be made after 7 days but do not apply more than 2.7 lbs (0.54 lbs ai) per acre of nursery, landscape or forest per year.

Restrictions:
Do not apply more than 2.7 lbs (0.54 lbs ai) per acre of nursery, landscape or forest per year.

To delay the development of resistance in greenhouses, nurseries and interiorscapes, do not make more than one soil application per crop cycle or three months, whichever is shorter. Refer to “Resistance Management” section of the label for additional guidelines.

ORNAMENTAL PLANTS AND FORESTS

BASAL TRUNK SPRAYS IN TREES AND LARGE SHRUBS

For systemic insect control in containerized and field grown (in-ground) ornamental trees and shrubs in nurseries, interior plantscapes, lath and shadehouses, outdoor landscapes (commercial, industrial, recreational and residential), tree plantations and forests when applied as a trunk spray.

Crops	Pests	Product Rate (By Weight)	Remarks
Shrubs Ornamental Trees Non-Bearing Fruit Trees Non-Bearing Nut Trees Trees in Plantations including: Conifer Deciduous Reforestation Nurseries Forests and Wooded Areas: National, Private and State	Adelgids including: Hemlock Woolly Aphids Flatheaded Borers including: Alder Bronze Birch Emerald Ash Flatheaded Appletree Two-lined Chestnut Lacebugs Leaf Beetles Leafhoppers Leafminers Mealybugs Mountain Pine Beetle Pine Tip Moth (larvae) Psyllids Roundheaded Borers (excluding Asian Longhorned) Scales including: Calico Cryptomeria Elongate Hemlock Fig (Ficus) Wax Thrips (suppression) Walnut Twig Beetle Whiteflies including: Fig (Ficus)	12-24 oz per gallon Depending on bark type and thickness, one gallon of spray solution will typically cover 65-85" of cumulative trunk diameter (1.5-2.0 fl oz per inch of trunk diameter) when applied to trunk between soil surface and 4-5 feet above soil surface.	When sprayed on the trunk, *Safari* 20 SG Insecticide will be absorbed through the bark and into the vascular system, and then transported throughout the tree. Speed of control will be dependent on tree size, tree health, environmental conditions and how actively pests are feeding. In actively transpiring trees, control may be evident within 1-3 weeks after application. Spray bark on root flare (buttress roots) and on trunk between soil surface and 4-5 feet above the soil surface. Adjust nozzle to uniformly distribute spray over the entire circumference of the tree trunk and buttress roots. Wet bark just to the point of saturation and run off onto soil. Apply ONLY with a low volume sprayer operated at less than 20 PSI to prevent tree damage, bounce back and drift of spray droplets. Time applications to coincide with when most vulnerable pest life stage is present on plants. **Do not apply to wet bark, during rainfall or if rain is expected within 12 hours.** Control may be less effective in trees with thick bark, and at times when trees are not actively growing or transpiring. For Mountain Pine Beetle: apply from 2 weeks before to 2 weeks after expected peak of adult flight activity.
Christmas Trees Ornamental Trees with trunk diameter less than 3" at soil line	Elongate Hemlock Scale Cryptomeria Scale Ficus (Fig) Whitefly	1.5-6.0 oz/gallon One gallon of spray solution will typically cover 325-425" of cumulative trunk diameter (0.3-0.4 fl oz per inch of trunk diameter) when applied to trunk between soil surface and 1 foot above soil surface	For Christmas trees and ornamental trees less than 3" in diameter at soil line, spray trunk just to point of runoff between soil surface and 12" above soil surface.

One (1) level teaspoon contains 2.4 grams, and 1 cup (8 fl oz) contains 4.0 oz by weight of *Safari* 20 SG Insecticide.

Restrictions:
Do not apply more than 2.7 lbs (0.54 lbs ai) per acre of nursery, forest or landscape per year.

STORAGE AND DISPOSAL

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

Pesticide Storage: Keep pesticide in original container. Do not put concentrate or dilute into food or drink containers. Store in a cool dry place. Do not store diluted spray. For help with any spill, leak, fire or exposure involving this material, call day or night 1-800-892-0099.

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: Nonrefillable container: Do not reuse or refill this container. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

CONDITIONS OF SALE

Valent U.S.A. Corporation warrants that this product in its unopened package conforms to the chemical description on the label and is reasonably fit for the purposes set forth on the label when used according to directions under normal use conditions to the crops specified. To the extent consistent with applicable law, there are no other warranties, expressed or implied, concerning the use of this product other than indicated on the label. To the extent consistent with applicable law, this warranty does not extend to the handling or use of this product contrary to label instructions or under abnormal conditions or conditions not reasonably foreseeable to seller, and buyer assumes all risk of any such use.

Manufactured for
Valent U.S.A. Corporation
P.O. Box 8025
Walnut Creek CA 94596-8025
Made in U.S.A.
Form 1510-G
LMS 16APR14
EPA Reg. No. 86203-11-59639
EPA Est. 67545-AZ-01

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

Always check with your state to verify state registration status or call 800-89-VALENT (898-2536).

For state registration and/or supplemental labels, please call or visit us online.

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