

71532-23

01-05-2011

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
CHEMICAL SAFETY  
AND POLLUTION PREVENTION

LG Life Sciences Ltd.  
c/o Ag-Chem Consulting  
12208 Quinque Lane  
Clifton, VA 20124

JAN 5 2011

Subject: Amendment to add Stink Bugs  
Lambdastar 9.7 CS, EPA Reg. No. 71532-23  
Submission dated August 23, 2010  
Decision No: 440843, S:881069

Dear Dr. Brooks:

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable subject to the comments below. Two (2) copies of the finished labeling must be submitted prior to releasing the product for shipment. A stamped copy of the label, dated August 23, 2010, is enclosed for your records.

- Submit and/or cite all data required for registration of your product under FIFRA Section 3(c)(5) when the Agency requires all registrants of similar products to submit such data, and submit acceptable responses required for reregistration of your product under FIFRA section 4.

If you have any questions regarding this action, please contact Rosanna Louie-Juzwiak at (703) 308-0037.

Sincerely,

  
Mark Suarez

Product Manager 13, Insecticide Branch  
Registration Division (7505P)

Enclosure: Lambdastar 9.7 CS label, Stamped *Accepted with Comments*

# LAMBDASTAR 9.7% CS Insecticide

Intended for use by commercial applicators for use in, on and around buildings and structures for the control of listed pest, including on lawns, ornamental trees and shrubs around residential, institutional, public, commercial, agricultural and industrial buildings; and parks, recreational areas and athletic fields.

**Active Ingredient:**

Lambda-cyhalothrin<sup>1</sup>:

[1 α(S\*),3 α(Z)]-(±)-cyano-(3-phenoxyphenyl)methyl-3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate .....9.7%

Other Ingredients: .....90.3%

Total: .....100.0%

<sup>1</sup>Synthetic pyrethroid

EPA Registration No. 71532-23

EPA Establishment No.

**ACCEPTED  
with COMMENTS  
In EPA Letter Dated:**

JAN - 5 2011

**Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under EPA Reg. No.  
71532-23**

### KEEP OUT OF REACH OF CHILDREN WARNING

Net Contents \_\_\_\_\_

### PRECAUTIONARY STATEMENTS Hazards to Humans and Domestic Animals

See additional precautionary statements and directions for use in booklet.

First Aid	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
<b>If swallowed:</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>If in eyes:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continuing rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If on skin or clothing:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If inhaled:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact the Poison Control Center at 1-800-222-1222.	
<b>FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident call CHEMTREC 1-800-424-9300.</b>	

[]- Denotes Optional Language

[EcoCap Technology]

[LG's EcoCap Technology]

[Contains LG's EcoCap Technology]

[Featuring EcoCap Technology]

[EcoCap Technology: 2 walled capsules- 1 result - dead insects]

[No VOCs]

**PRECAUTIONARY STATEMENTS**

**Hazards to Humans and Domestic Animals**

WARNING. May be fatal if swallowed. Harmful if inhaled or absorbed through skin. Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing. Avoid breathing spray mist. Wear protective eyewear. Wear long-sleeved shirt and long pants, socks, shoes, and gloves. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing before reuse. See additional precautionary statements and directions for use in booklet.

**Environmental Hazards**

This product is extremely toxic to fish and other aquatic organisms. Do not contaminate water when cleaning equipment or disposing of equipment wash water. To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. Rinsing application equipment over the treated area will help avoid run off to water bodies or drainage systems. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Apply this product only as specified on this label. When making applications, care should be used to avoid household pets, particularly fish and reptile pets.

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

**Physical And Chemical Hazards**

Do not use this product in or on electrical equipment due to the possibility of shock hazard.

**DIRECTIONS FOR USE**

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

**IMPORTANT:** Not for use on plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes. For use on plants intended for aesthetic purposes or climatic modification and being grown in interior landscapes, ornamental gardens or parks, or on lawns or grounds.

**PREMISE AND PERIMETER PEST CONTROL**

**LAMBDA STAR 9.7% CS** is for use as a general surface (nonfood/nonfeed areas), crack and crevice, or spot treatment in, on, and around buildings and structures and their immediate surroundings, and on modes of transport. Areas of use include, but are not limited to, industrial buildings, houses, apartment buildings, laboratories, buses, greenhouses (non-commercial), stores, warehouses, vessels, railcars, trucks, trailers, aircraft (cargo and other non-cabin areas only), schools, nursing homes, hospitals, restaurants, hotels, livestock/poultry housing, pet kennels, food granaries, food grain mills and food manufacturing, processing, and servicing establishments.

Nonfood/nonfeed areas of food/feed handling establishments include garbage rooms, lavatories, floor drains (to sewers), entries and vestibules, offices, locker rooms, machine rooms, boiler rooms, garages, mop closets, and storage (after canning or bottling).

For indoor applications, **LAMBDASTAR 9.7% CS** can be reapplied at 21-day intervals if necessary.

**Mixing Instructions**

Dilute **LAMBDASTAR 9.7% CS** with water for application using hand-held or power-operated application equipment as a coarse spray for crack and crevice or spot and general surface (non-food/nonfeed areas only) treatments. Application equipment that delivers low volume treatments, such as the Micro-Injector<sup>®</sup> or Actisol<sup>®</sup> applicator, may also be used to make crack and crevice or spot and general surface treatments. Fill applicator tank with the desired volume of water and add **LAMBDASTAR 9.7% CS**. Close and shake before use in order to ensure proper mixing. Shake or reagitator applicator tank before use if application is interrupted. Mix only amount of treatment volume as required. **LAMBDASTAR 9.7% CS** may be applied by using a paintbrush or other porous applicator attached to a handle as a general surface treatment

**Tank Mixing**

**LAMBDASTAR 9.7% CS** may be tank mixed with other currently registered pesticides unless expressly prohibited by the product label. A small volume mixing test with the other products is recommended to ensure compatibility. If other chemicals are added to the applicator tank, **LAMBDASTAR 9.7% CS** should be added last. If mixed with EC formulations, use within 24 hours. Fill tank to desired volume and continue to agitate while making applications.

**LAMBDASTAR 9.7% CS** may be tank mixed with an Insect Growth Regulator (IGR). Observe all restrictions and precautions which appear on the labels of these products.

**Foam Applications**

**LAMBDASTAR 9.7% CS** may be converted to a foam and the foam used to treat structural voids to control or prevent pests including ants, bees, termites (above ground only), wasps, or other arthropods harboring in walls, under slabs, or in other void areas.

**RATES FOR PREMISE PESTS (HAND APPLICATION EQUIPMENT)**

Pests	Dilution Rate (Concentration of AI)	SPECIFIC USE DIRECTIONS
Ants <u>Bedbugs (adults and nymphs)</u> Bees Boxelder Bugs Carpenter Bees Carpet Beetles Centipedes Cigarette Beetles Clover Mites Cockroaches <sup>1</sup> Confused Flour Beetles Crickets Earwigs Firebrats Fleas <sup>2</sup> Flies Lesser Grain Borers Millipedes Mosquitoes	0.2 fl. oz. (6 mL) to 0.4 fl. oz. (12 mL) per gallon of water  (0.015-0.03% AI)	<p><b>Ants:</b> Apply to any trails around doors and windows and other places where ants may be found. For best results, locate and treat nests. Where ants are trailing inside, apply as a residual surface treatment to active areas such as baseboards, corners, around pipes, in and behind cabinets, behind and under refrigerators, sinks, furnaces and stoves, cracks and crevices. When combining baits and residual surface insecticides, apply surface insecticides in cracks and crevices, along baseboards, and infested surfaces and outside barrier treatments. Use baits in other areas that are untreated by residual insecticides; also see <b>Outdoor Surfaces Use</b>.</p> <p><b>Bedbugs (Adults and Instars):</b> Clean floors and surfaces by vacuuming. Apply as a coarse, low-pressure spray to harborage areas including crevices, baseboards, loose plaster, behind bed frames and headboards, beneath beds and furniture, and to bedsprings and bed frames. <b><u>Do not apply Lambdastar 9.7% CS to furniture surfaces or mattresses. Only treat those surfaces with EPA registered insecticides or exempt products that allow such direct applications. Mattresses and boxsprings</u></b></p>

<p>Red Flour Beetles Rice Weevils Saw-toothed Grain Beetles Silverfish Sowbugs Spiders Stink bug spp. (including Brown Marmorated and Kudzu Bug) Termites* (above ground only) Ticks Wasps</p>		<p><b><u>should be encased in covers that effectively cut off any possible surviving bedbugs. Infested bedding, drapes and clothing can be treated with registered or exempt products, or placed in plastic bags, or laundered, and dried at high temperatures. Applicators may use monitoring devices such as NightWatch Bedbug Monitor to determine success of eradication efforts.</u></b> <b>Cockroaches, Crickets, Earwigs, Firebrats, Silverfish, and Spiders:</b> Apply as a coarse, low pressure spray to areas where these pests hide, such as baseboards, corners, storage areas, closets, around water pipes, doors and windows, attics and eaves, cabinets, behind and under refrigerators, sinks, furnaces and stoves, the underside of shelves, drawers and similar areas. Pay particular attention to cracks and crevices; also see <b>Outdoor Surfaces Use</b>.</p>
<p>Cockroaches<sup>1</sup> Crickets<sup>6</sup> Flies<sup>5</sup> Litter Beetles<sup>3</sup> (adults/ immature stages such as Darkling, Hide, and Carrion) Mosquitoes<sup>4</sup> Pillbugs Scorpions Spiders<sup>6</sup> Spider Mites (Two-spotted, Spruce) Ticks<sup>6</sup></p>	<p>0.8 fl. oz. (24 mL) per gallon of water  (0.06% AI)</p>	<p><b>Bees, Flies, Mosquitoes, and Wasps:</b> Apply directly to walls, ceilings, window screens, and other resting areas as a residual surface treatment. May be used inside residential buildings as well as in and around carports, garages, and storage sheds; also see <b>Outdoor Surfaces Use</b>. Use caution when treating nests of stinging insects since LambdaStar 9.7% CS does not provide instant knockdown. Protective equipment may be required for the applicator. For best results, treat bee, wasp and hornet nests late in the day when most insects will be present. Allow 2-3 days for colony to die and retreat if necessary.</p> <p><b>Carpenter Bees:</b> Apply coarse spray to thoroughly wet wood surfaces where bees have been previously active or to provide protection against further damage. Apply early in the spring to prevent bees from invading wood. When bees have infested wood, surface applications can help control embedded larvae and bees that emerge from the wood.</p> <p><b>Pantry Pests</b> (i.e., Carpet beetle, Cigarette beetle, Confused flour beetle, Lesser grain borer, Red flour beetle, Rice weevil, and Saw-toothed grain beetle): Apply to cupboards, shelving, and storage areas. Remove all utensils, uncovered foodstuffs (or any having original package opened), and shelf paper before making application. Allow treated surfaces to dry and cover shelves with clean paper before replacing any utensils, foodstuff, or other items. Any foodstuff accidentally contaminated with treatment solution should be destroyed.</p> <p><b>Boxelder Bugs, Centipedes, Millipedes, Pillbugs, and Sowbugs:</b> Apply around doors and windows and other places where these pests may be found or where they may enter premises. Treat baseboards, storage areas, and other locations. Apply barrier treatments to prevent infestation as described below; also see <b>Outdoor Surfaces Use</b>.</p> <p><b>Fleas and Ticks:</b> To control nuisance fleas and ticks (e.g. dog ticks) apply to kennels, yards, runs, and other areas where pets may frequent. For best coverage to control ticks, apply using a coarse fan spray to vegetation brush, branches, rock walls, and other areas near habitation where ticks may harbor or frequent. Treat entire area rather than making spot treatments, and retreat as necessary to maintain control. Do not apply to pasture or cropland, and do not allow animals and people access to treated areas until the deposit has dried. Applications can begin in the spring and can continue until frost to control both larvae and adult ticks; also see <b>Outdoor Surfaces Use</b>.</p>

	<p><b>Cluster Flies:</b> Apply in late summer or early fall before flies are observed alighting on surfaces. Apply thoroughly on siding, under eaves, and around windows and doors, paying particular attention to south-facing surfaces, but do not allow runoff to occur. Heavy precipitation prior to frost may require retreatments to maintain protection. In winter and spring when flies become active and are emerging, interior crack and crevice and void treatments can help reduce the infestation, along with ULV or general surface application in infested attics or unoccupied lofts.</p> <p><b>Litter Beetles (Darkling, Hide, and Carrion Beetles) and Flies In Animal Housing (Such As Poultry Houses):</b> To control adult litter beetles, apply LAMBDA STAR 9.7% CS to walls and floors at cleanout, before reintroduction of animals. This will suppress beetles that escaped earlier treatment and will help delay onset of future infestations. Pay attention to areas where beetles frequently occur, such as walls, supports, cages, stalls, and around feeders. To help control flies, apply a directed application to horizontal surfaces and overhead areas and allow to dry before reintroduction of animals; also see <b>Livestock/Poultry Housing Structures and Pet Kennels.</b></p>
<p><sup>1</sup>For cockroaches, the recommended rate for maintenance treatments is 0.015% and for clean-out treatments is 0.03%. In addition, more frequent applications may be necessary on concrete surfaces. For control of severe infestations, use 0.06% rate.</p> <p><sup>2</sup>For outdoor use only and use 0.03% rate.</p> <p><sup>3</sup>For control of LIGHT beetle infestations, use 0.03% rate.</p> <p><sup>4</sup>For residual control, use 0.06% rate.</p> <p><sup>5</sup>In all states except California, rates for flies may be increased to 0.06% when environmental conditions are severe and/or populations are high.</p> <p><sup>6</sup>For clean-out/severe infestations, use 0.06% rate.</p>	

**Application Within Food Handling Establishments**

For places other than private residences in which exposed food is held, processed, prepared, or served including, but not limited to, areas for receiving, storage, packing (canning, bottling, wrapping, boxing), preparing foods, edible waste storage and enclosed processing systems (mills, dairies, edible oils, syrups), and serving areas.

Use as a crack and crevice or spot treatment in and around both food and nonfood areas. Apply in small amounts directly into cracks and crevices, using equipment capable of delivering a pin stream of insecticide, in points between different elements of construction, between equipment and floor, openings leading to voids and hollow spaces in walls, equipment and bases. Food contact surfaces and equipment should be cleaned with an effective cleaning compound and rinsed with potable water before using.

Limit individual spot treatments to an area no larger than 20% of the treated surface. Individual spot treatments should not exceed two sq. ft. Take extreme care that the product is not introduced into the air. Avoid contamination of food and food processing surfaces.

**Application Within Food Serving Areas**

For facilities where foods are served, such as dining rooms. Apply as a crack and crevice or spot treatment to selective surfaces such as baseboards, under elements of construction, and into cracks and crevices. Avoid treating surfaces likely to be contacted by food. (Do not apply when facility is in operation or foods are exposed.) Food must be covered or removed in area being treated. Do not apply directly to food or allow applications to contaminate food.

**NOTE:** Application of this product in the Food Areas and/or Food Serving Areas of Food Handling Establishments other than as a spot and/or crack and crevice treatment is not permitted. Use of application equipment such as the Micro-Injector or Actisol applicator in food areas should be limited to crack and crevice treatment only.

**Livestock/Poultry Housing Structures and Pet Kennels**

Apply as a general surface (including directed sprays) and/or crack and crevice treatment. Control is enhanced when interior and exterior perimeter applications are made in and around the livestock, poultry, and pet housing structures. Normal cleaning practices of the structure also must be followed along with applications of **LAMBDA STAR 9.7% CS** to effectively control the crawling and flying insect pests listed in the table.

For unoccupied areas of livestock barns or housing structures, apply to floors, vertical, and overhead surfaces where crawling or flying insect pests are or may be present. Feeders, waterers, and feed carts should be covered before application to prevent contamination. Do not apply to milk rooms or feed rooms. Pay attention to animal areas including stanchions, pipes, windows and doors, and areas where insect pests hide or congregate. Exterior applications to south facing walls and foundation perimeters can help prevent interior infestations of flying and crawling insect pests.

For poultry houses, apply to floor area (birds grown on litter) or to walls, posts, and cage framing (birds grown in cages). Application should also be made into cracks and crevices around insulation. Reapply after each growout or sanitization procedure. Indoor control can be enhanced by making perimeter treatments around the outside of building foundations to prevent immigrating adult beetles. Apply in a uniform band 1 - 3 ft. up and 2 - 6 ft. out from foundation. Maintaining a year-round treatment program will prevent background populations from reaching problem levels.

**RESTRICTIONS:**

- **DO NOT** make applications of **LAMBDA STAR 9.7% CS** in areas where animals are present in the facility. Allow treated surfaces to completely dry before restocking the facility.
- **DO NOT** make applications to any animal feedstuffs, water, or watering equipment.
- **DO NOT** contaminate any animal food, feed, or water in and around livestock, poultry, or pet housing when making applications.
- **DO NOT** apply directly to sewers or drains, or to any area like a gutter where drainage to sewers, storm drains, water bodies, or aquatic habitat can occur, except as directed by this label.
- **DO NOT** water the treated area to the point of run off.
- **DO NOT** make applications during rain.

**Outdoor Surfaces Use**

For control of ants, centipedes, cockroaches, crickets, fleas, flies, millipedes, mosquitoes, scorpions, sowbugs, pillbugs, spiders, termites\* (above ground only), ticks, wasps, and other similar perimeter arthropod pests.

All outdoor applications must be limited to spot or crack-and-crevice treatments only, except for the following permitted uses:

- (1) Treatment to soil or vegetation around structures;
- (2) Applications to lawn, turf, and other vegetation;
- (3) Applications to building foundations, up to a maximum height of 3 feet.

Other than applications to building foundations, all outdoor applications to impervious surfaces such as sidewalks, driveways, patios, porches and structural surfaces (such as windows, doors, and eaves) are limited to spot and crack-and-crevice applications, only.

Apply with either hand or power application equipment as a residual treatment to ornamental plants next to foundations of buildings and to surfaces of buildings, porches, screens, window frames, eaves, patios, garages, refuse dumps, and other similar areas where these insect pests are active.

\*For termites, this type of application is not intended as a substitute for soil treatment labeled termiticides or mechanical alteration to control subterranean termites, or fumigation for extensive infestation of drywood termites or other wood-infesting insects. The use of **LambdaStar 9.7% CS** on termites is to kill workers or winged reproductive forms which may be present in treated channels at the time of treatment. These applications are not a substitute for mechanical alteration, soil treatment or foundation treatment but are considered supplemental. This product is not recommended as sole protection against termites. For active termite infestations, get a professional inspection.

**Premise Perimeter Barrier Treatments**

Apply a continual band of insecticide around building foundations and around windows, doors, service line entrances, eaves, vents, and other areas to reduce the potential for entry by crawling pests. Before application, remove debris and leaf litter from next to the foundation, cut back vegetation and branches that touch the foundation, and move or rake back rocks, deep mulch, or other potential pest harborage next to the foundation. Apply the band up to 10 ft. wide around the structure (or according to state regulations governing commercial pest control) and upwards along the foundation to 3 ft. and around windows, doors, and roof overhangs. Apply as a coarse spray to thoroughly and uniformly wet the foundation and/or band area so that the insecticide will reach the soil or thatch level where pests may be active.

Amount of concentrate is dependent upon pest species (see pest table and comments), infestation levels, and service interval desired.

**Rate Table For Perimeter Barrier Applications**

Application Rate: Fl. oz. (mL) of <b>LAMBDASTAR 9.7% CS</b>	Gals. of Water <sup>1</sup>	Area of Coverage (sq. ft.)
0.2 fl. oz. (6mL)	1-5 gals.	800-1600 sq. ft
0.4 fl. oz. (12 mL)	1-5 gals.	800-1600 sq. ft.
0.8 fl. oz. (24 mL)	1-5 gals.	800-1600 sq. ft.

<sup>1</sup>Application volume may be greater than 5 gals./800-1600 sq. ft. if required under heavy vegetative or landscaping materials in order to obtain desired coverage.

**Examples Of Dilutions For Perimeter Barrier Applications**

Application Volume Gals. of Solution per 1,000 sq. ft.	Application Rate Fl. oz. (mL) of <b>LAMBDASTAR 9.7% CS per 1,000 sq. ft.</b>	Fl. oz. (mL) of <b>LAMBDASTAR 9.7% CS</b> to Dilute in Water According to Spray Tank Volumes		
		5 gals.	10 gals.	50 gals.
1 gal. per 1,000 sq. ft.	0.2 fl. oz. (6mL) 0.4 fl. oz. (12 mL) 0.8 fl. oz. (24 mL)	1 fl. oz. (30 mL) 2 fl. oz. (60 mL) 4 fl. oz. (120 mL)	2 fl. oz. (60 mL) 4 fl. oz. (120 mL) 8 fl. oz. (240 mL)	10 fl. oz. (300 mL) 20 fl. oz. (600 mL) 40 fl. oz. (1200 mL)

2 gal. per 1,000 sq. ft.	0.2 fl. oz. (6mL) 0.4 fl. oz. (12 mL) 0.8 fl. oz. (24 mL)	0.5 fl. oz. (15 mL) 1 fl. oz. (30 mL) 2 fl. oz. (60 mL)	1 fl. oz. (30 mL) 2 fl. oz. (60 mL) 4 fl. oz. (120 mL)	5 fl. oz. (150 mL) 10 fl. oz. (300 mL) 20 fl. oz. (600 mL)
5 gal. per 1,000 sq. ft.	0.2 fl. oz. (6mL) 0.4 fl. oz. (12 mL) 0.8 fl. oz. (24 mL)	0.2 fl. oz. (6 mL) 0.4 fl. oz. (12 mL) 0.8 fl. oz. (24 mL)	0.4 fl. oz. (12 mL) 0.8 fl. oz. (24 mL) 1.6 fl. oz. (48 mL)	2 fl. oz. (60 mL) 4 fl. oz. (120 mL) 8 fl. oz. (240 mL)

**Example Calculation:** To apply the mid-rate of LambdaStar 9.7% CS at a volume of 5 gal./1,000 sq. ft., mix 4 oz. of concentrate in 50 gallons of water.

The percent active ingredient in the finished LambdaStar 9.7% CS dilution can be calculated with the following formula:

$$\frac{(\text{mL needed to add}) \times (9.7\% \text{ active in concentrate})}{(\text{gal. finished dilution}) \times (3,785 \text{ ml/gal.})} = \% \text{ active in dilution}$$

(Example: 4 oz. in 50 gals. is 20 mL, times 9.7% equals 1,164, and 50 gal. times 3,785 is 189,250. Dividing 1,164 by 189,250 equals 0.006% active in the tank dilution).

**NOTE:** Do not use water base sprays of **LAMBDASTAR 9.7% CS** in conduits, motor housings, junction boxes, switch boxes, or other electrical equipment because of possible shock hazard. For best results, thoroughly wash out sprayer and screen with water and detergent before using **LAMBDASTAR 9.7% CS**. **LAMBDASTAR 9.7% CS** has not stained or caused damage to painted or varnished surfaces, plastics, fabrics, or other surfaces where water applied alone causes no damage. However, treat a small area and allow to dry to determine whether staining will occur.

**LET TREATED SURFACES DRY BEFORE ALLOWING HUMANS AND PETS TO CONTACT SURFACES.**

**RESTRICTIONS:**

- **DO NOT** use this product with oil.
- **DO NOT** apply this product in any room being used as living, eating, sleeping, or recovery area by patients, the elderly, or infirm when they are in the room.
- **DO NOT** apply to classrooms when in use.
- **DO NOT** apply to institutions (including libraries, sports facilities, etc.) in the immediate area when occupants are present.
- **DO NOT** apply this product to edible growing crops or stored raw agricultural commodities used for food or feed.
- **DO NOT** allow applications to contact water inhabited by fish, such as in aquariums and ornamental fish ponds that are located in/around structures being treated.

**LAWNS/TURFGRASS AND ORNAMENTALS**

**LAMBDASTAR 9.7% CS** may be used for applications to maintain indoor or outdoor areas where turf and ornamentals are grown such as residential landscaped areas and non-residential landscapes around institutional, public, commercial and industrial buildings, parks, recreational areas, and athletic fields (Including trees, shrubs, flowers, evergreens, foliage plants and groundcovers). Application rates for turf and ornamentals are lower than structural pest control rates, reflecting that treatment intervals are generally more frequent.

Applicators must ensure that they are certified in the necessary pesticide certification categories to allow application of **LAMBDASTAR 9.7% CS** away from structures, such as to turf and ornamental plantings. Structural pest control certification categories may limit the distance away from structures for pesticide application. Consult your state extension office or pesticide regulatory officials for further information.

**IMPORTANT:** Time application to flowering plants during periods when pollinating insects are not present, such as early morning or late evening.

**RESTRICTIONS:**

- **DO NOT** apply this product through any type of irrigation system.
- **DO NOT** apply this product to edible crops.
- **DO NOT** apply this product by aerial application.
- Use of this pesticide adjacent to water may affect aquatic organisms. To protect these organisms, **DO NOT** apply this pesticide within 25 ft. of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries, and commercial fish farm ponds.
- **DO NOT** make outdoor broadcast applications to turf and ornamentals when wind speed is 15 mph or greater.
- In the state of New York, **DO NOT** apply within 100 ft. of coastal marshes or streams that drain into coastal marshes.

**Mixing Instructions**

**LAMBDASTAR 9.7% CS** is to be mixed with water and may be used in all types of standard application equipment. Fill applicator tank with the desired volume of water and add **LAMBDASTAR 9.7% CS**. It is suggested that the water be 5 - 7 pH. Adjust water pH with a buffering agent if necessary. Slowly add **LAMBDASTAR 9.7% CS** to applicator tank water with maximum agitation. Close and shake or reagitator applicator tank before use if application is interrupted. Make up only amount of treatment volume as required.

**Tank Mixing**

**LAMBDASTAR 9.7% CS** may be tank mixed with other currently registered pesticides unless expressly prohibited by the product label. A small volume mixing test with the other products is recommended to ensure compatibility. If other chemicals are added to the applicator tank, **LAMBDASTAR 9.7% CS** should be added last. Fill tank to desired volume and continue to agitate while making applications. If mixed with EC formulations, use within 24 hours.

Observe all restrictions and precautions which appear on the labels of these products.

**ORNAMENTAL INSECT PEST CONTROL**

**LAMBDASTAR 9.7% CS** is for use to control the pests listed in the table below in such areas as residential landscaped areas and landscaped areas around institutional, public, commercial and industrial buildings, parks, recreational areas, and athletic fields (including trees, shrubs, flowers, evergreens, foliage plants and groundcovers).

**NOTE:** While phytotoxicity testing has been carried out on a wide range of ornamental plants under various environmental conditions, and no phytotoxicity has been observed, certain cultivars may be sensitive to the final spray solution.

It is advised to prespray a selection of ornamental plants and observe them for 7-10 days prior to treating large areas if local use experience is unavailable. This is especially advisable if LambdaStar 9.7% CS is being mixed with another product or ingredient besides water. [See **Tank Mixing** instructions].

**RESTRICTIONS:**

- **DO NOT** apply more than 0.36 lbs. of the a.i. (52.4 fl. ozs. of concentrate) per acre per year.

**TANK DILUTION RATES FOR ORNAMENTAL PESTS**

Pest	Amount Of LAMBASTAR 9.7% CS	Application Instructions
Ants (Including Imported fire Ants) Armyworms Azalea caterpillars Aphids Bagworms Black vine weevils (adult) Boxelder bugs Budworms California oakworms Cankerworms Cockroaches Crickets Cutworms Eastern tent caterpillars Elm leaf beetles European sawflies Fall webworms Flea beetles Forest tent caterpillars Gypsy moth larvae Japanese beetles (adults) June beetles (adults) Lace bugs Leaf-feeding caterpillars Leafhoppers Leafminers (adults) Leaf rollers Leaf skeletonizers Midges Mosquitoes Oleander moth larvae Pillbugs Pine sawflies Pine shoot beetles Pinetip moths Plant bugs Root weevils Sawflies Scale insects (crawlers) Spiders Spittlebugs Striped beetles Striped oakworms Stink bug spp. (including Brown Marmorated and Kudzu Bug) Thrips Tip moths Tussock moth larvae Wasps	1.5 - 5 fl. oz. per 100 gals.  or  44 - 148 mL per 100 gals.	<p>Application to ornamentals should be started prior to the establishment of high insect pest populations. Make reapplications as necessary to keep pest populations under control, using higher rates as pest pressure increases.</p> <p>Apply at 7-day intervals if retreatment is necessary. More frequent treatments should be limited to spot treatments. Be aware, as plants grow, new foliage will be unprotected until treated.</p> <p>Good spray coverage is necessary to provide the most effective level of control. Addition of a spreader-sticker at recommended rates may enhance the control of insects on certain species of ornamentals having waxy, hard to wet foliage.</p> <p>For spot treatments use 0.5 fl. oz. <b>LAMBASTAR 9.7% CS</b> per 1 - 2.5 gals. of water.</p> <p>Consult your state university or local Cooperative Extension Service office for specific pest control application timing in your area.</p> <p><b>Scale:</b> Thoroughly cover the plant with <b>LAMBASTAR 9.7% CS</b> spray, including trunks, stems, twigs, and foliage for control of scale insects (crawler stage).</p> <p><b>Bagworm:</b> Apply <b>LAMBASTAR 9.7% CS</b> when bagworm larvae begin to hatch. Spray directly on the larvae. Application is the most effective when the larvae are young.</p>
Broadmites Brown softscales California redscales (crawlers)	3 - 5 fl. oz. per 100 gals	

Clover mites Mealybugs Pineneedlescales (crawlers) Spider mites Whiteflies	or 88 -148 mL per 100 gals.	
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**LAMBDASTAR 9.7% CS Mixing Chart for Ornamental Insect Pest Control**

(LAMBDASTAR 9.7% CS to add per spray tank)

Rate of LAMBDASTAR 9.7% CS	25 Gals.	50 Gals.	100 Gals.	200 Gals.	300 Gals.
1.5 oz. <sup>1</sup>	0.4 oz.	0.8 oz.	1.5 oz.	3.0 oz.	4.5 oz.
3 oz. <sup>2</sup>	0.8 oz.	1.5 oz.	3.0 oz.	6.0 oz.	9.0 oz.
5 oz. <sup>3</sup>	1.3 oz.	2.5 oz.	5.0 oz.	10.0 oz.	15.0 oz.

<sup>1</sup> Equivalent to 3.5 mL per 1,000 sq. ft. (5 oz. per acre) when applied at 8 gal. per 1,000 sq. ft.  
<sup>2</sup> Equivalent to 7 mL per 1,000 sq. ft. (10 oz. per acre) when applied at 8 gal. per 1,000 sq. ft.  
<sup>3</sup> Equivalent to 9.5 mL per 1,000 sq. ft. (14 oz. per acre) when applied at 8 gal. per 1,000 sq. ft.

**LAWN/TURFGRASS INSECT PEST CONTROL**

LAMBDASTAR 9.7% CS is for use to control the pests listed in the table below around such areas as residential, institutional, public, commercial and industrial buildings, parks, recreational areas and athletic fields.

**RESTRICTIONS:**

- **KEEP CHILDREN AND PETS OFF TREATED AREAS UNTIL SPRAY HAS DRIED FOLLOWING APPLICATION.**
- **DO NOT** apply when turfgrass is waterlogged or when soils are saturated with water (i.e. will not accept irrigation).
- **DO NOT** apply more than 0.36 lbs. of a.i. (52.4 fl. oz. of concentrate) per acre per year.

**POWER SPRAY RATES FOR LAWN AND TURFGRASS PESTS**

Pest	Amount Of LAMBDASTAR 9.7% CS *	Application Instructions
Ants (Including Imported Fire Ants) Armyworms Centipedes Crickets Cutworms Earwigs Fleas (adult) Grasshoppers Japanese beetles (adult) Millipedes Mites Mosquitoes (adult) Pillbugs Sod webworms Sow bugs	3.4 - 7 mL per 1,000 sq. ft.  or  5 -10 fl. oz. per acre	Application to turf should be started prior to the establishment of high insect pest populations and significant turf damage. Make reapplications as necessary to keep pest populations under control, using higher rates as pest pressure increases.  Apply at 7-day intervals if retreatment is necessary. More frequent treatments should be limited to spot treatments.  For <b>spot treatments</b> , use 0.5 fl. oz. of <b>LAMBDASTAR 9.7% CS</b> per 1 - 2.5 gals. of water.  <b>Surface Insect Control (armyworm, cutworms, fleas, etc.):</b> For best results, apply <b>LAMBDASTAR 9.7% CS</b> at recommended rates in 2 - 5 gals. of

<p>Stink bug spp. (including Brown Marmorated and Kudzu Bug)</p> <p>Ticks (including species which transmit Lyme disease)</p>		<p>water per 1,000 sq. ft. The use of a spreader-sticker may be useful if high rainfall amounts are forecast, otherwise the addition of adjuvants is not necessary under normal conditions for surface insect control in turf. Delay watering or mowing for 12 - 24 hours for optimum control of surface-feeding insect pests.</p>
<p>Bluegrass billbugs (adult)</p> <p>Black turfgrass ataenius (adult)</p> <p>Chiggers</p> <p>Fleas (adult)</p> <p>Grubs (suppression)</p> <p>Hyperodes weevils (adult)</p> <p>Mole crickets (nymphs and young adults)</p>	<p>7 mL per 1,000 sq. ft</p> <p>or</p> <p>10 fl. oz. per acre</p>	<p><b>Thatch Inhabiting Insect Control (chinch bugs, billbugs, etc.):</b> For best results, apply <b>LAMBDASTAR 9.7% CS</b> at recommended rates in 2 - 10 gals. of water per 1,000 sq. ft. The use of a nonionic wetting agent, penetrant or similar adjuvant is recommended at label rates. Lightly irrigate after application with up to 1/2 inch of water to move the <b>LAMBDASTAR 9.7% CS</b> into the thatch layer. If irrigation is not available, then use high water application rates for optimum results.</p>
<p>Mole Crickets<sup>1</sup> (mature adults)</p> <p>Chinch Bugs<sup>1</sup></p>	<p>14 mL per 1,000 sq. ft.</p> <p>or</p> <p>20 fl. oz. per acre</p>	<p><b>Subsurface Insect Control (mole crickets, grubs, etc.):</b> For best results, apply <b>LAMBDASTAR 9.7% CS</b> at recommended rates in 4 - 10 gals. of water per 1,000 sq. ft. The use of a nonionic wetting agent, penetrant or similar adjuvant is strongly recommended following label rates. Use the highest water application rates possible with your sprayer. Apply <b>LAMBDASTAR 9.7% CS</b> to turf wet with dew, rain or irrigation. Water-in immediately after application with 1/4 - 1/2 inch of water for optimum results.</p> <p><b>Fire Ant Control:</b> Treat individual mounds with a drench application using a watering can. Use 0.5 fl. oz. of <b>LAMBDASTAR 9.7% CS</b> per 2.5 gals. of water. Thoroughly soak each mound and a 3 ft. diameter circle around each mound. Gently apply the mixture to avoid disturbing the mound. Disturbing the mound may cause the ants to migrate and reduce the effectiveness of the treatment. For best results, apply in early morning or late evening hours. Applications can be made on a monthly basis to maintain protection of treated areas.</p> <p><b>Mosquito Control:</b> Apply as a general spray around landscape plantings, turf, and building foundations to control mosquitoes. For best results, apply <b>LAMBDASTAR 9.7% CS</b> at recommended rates in 2 - 5 gals. of water per 1,000 sq. ft. Higher volumes applied result in better coverage and will improve control.</p>

<sup>1</sup> Not for use on mature adult mole crickets and chinch bugs in New York state.

\* Example: To treat the listed turf pests at the 7 mL per 1,000 sq. ft. rate, determine the gallons of dilution per 1,000 sq. ft. needed to adequately cover the turf. At a 5 gallon per 1,000 sq. ft. dilution, take the 7 mL and divide it by the 5 (gallon) to get 1.4 mL to be added per gallon. For a 50 gallon tank, therefore, this would be 1.4 mL X 50 = 70 mL (or 2.5 oz.) in 50 gallons of water.

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### LAMBDASTAR 9.7% CS Mixing Chart for Turf Insect Pest Control

(LAMBDASTAR 9.7% CS to add per 100 gal. spray tank)

Rate of LAMBDASTAR 9.7% CS	Application Rate Per 1,000 Square Feet of Turf				
	2 gal.	4 gal.	6 gal.	8 gal.	10 gal.
5 oz. per acre	5.7 oz.	2.9 oz.	1.9 oz.	1.4 oz.	1.2 oz.
10 oz. per acre	11.5 oz.	5.7 oz.	3.8 oz.	2.9 oz.	2.3 oz.
20 oz. per acre	23.0 oz.	11.5 oz.	7.7 oz.	5.7 oz.	4.6 oz.

Conversion Rate: 1 fluid ounce (fl. oz.) equals 29 milliliters (mL).

**STORAGE AND DISPOSAL**

**Prohibitions:** Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited. Do not reuse empty container.

**Storage:** Keep container closed when not in use. Do not store near food or feed. Shake well before use. Protect from freezing. In case of spill or leak on floor or paved surfaces, soak up with sand, earth, or synthetic absorbent. Remove to chemical waste storage area until proper disposal can be made.

**Pesticide Disposal:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

**Container Disposal:** *For Containers equal to or less than 5 Gallons :* Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 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 puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities. *For Containers greater than 5 Gallons:* Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration. Do not burn unless allowed by state and local ordinances. **CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER.**

**CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**

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