

OPTIMATE™ CS

CONTROLLED RELEASE INSECTICIDE



- **Introducing OPTIMATE CS with Gamma-Cyhalothrin, the latest generation and most active Pyrethroid available**
- **For control of litter beetles, flies, fleas, mosquitoes, ants, bees, wasps, crickets, pillbugs, scorpions, sowbugs, spiders, and ticks**
- **Highly concentrated formula featuring CapVantage Technology ensures slow release**
- **For use as a general surface, crack and crevice or spot treatment in, on, and around buildings and structures and their immediate surroundings including lawns/turfgrass and ornamentals**

OPTIMATE CS is a microencapsulated insecticide for use on and around buildings and structures for the control of listed pests, including on lawns, ornamental trees and shrubs, around residential, institutional, public, commercial, agricultural and industrial buildings; parks, recreational areas and athletic fields; and livestock/poultry housing and pet kennels.

New to the professional pest control market, and exclusive to Control Solutions, Gamma-Cyhalothrin is a single biologically active isomer which allows for the same strength at half the use rate of Lambda-Cyhalothrin products.

For Poultry Housing: 1 pint treats up to 24,000 square feet when treating for litter beetles. Can be used on entire footing, crack and crevice, or banded applications. Effective against adults and immature Darkling beetles, Hide and Carrion beetles.

In University testing, OPTIMATE CS killed 100% of big-headed ants over twice as fast after 4 weeks than Lambda-Cyhalothrin.

800-242-5562 (Phone)
281-892-2501 (Fax)
www.controlsolutionsinc.com

CSI
CONTROL
SOLUTIONS
incorporated

OPTIMATE™ CS

CONTROLLED RELEASE PREMISE INSECTICIDE

• A microencapsulated insecticide for use on and around buildings and structures for the control of listed pests, including on lawns, ornamental trees and shrubs, around residential, institutional, public, commercial, agricultural and industrial buildings; parks, recreational areas and athletic fields; and livestock/poultry housing and pet kennels.

• With CapVantage™ Technology.

• Treats up to 24,000 square feet when treating for litter beetles.

Active Ingredient:

Gamma-cyhalothrin: Cyclopropanecarboxylic acid, 3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethyl,cyano(3-phenoxyphenyl) methyl ester	5.9%
Other Ingredients.....	94.1%
Total	100.0%

Contains 0.5 pounds of active ingredient per gallon
Contains petroleum distillate

EPA Reg. No. 67760-104-53883

EPA Est. No. 53883-TX-002

KEEP OUT OF REACH OF CHILDREN CAUTION PRECAUÇION

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

Manufactured for:
Control Solutions, Inc.
5903 Genoa-Red Bluff
Pasadena, TX 77507-1041

Apply this product directly to lawn or garden area. Water treated area as directed on this label. Do not water to the point of run-off.

Do not make applications during rain.

Application is prohibited directly into sewers or drains, or to any area like a gutter where drainage to sewers, storm drains, water bodies, or aquatic habitat can occur. Do not allow the product to enter any drain during or after application.

Notice: Shake well before use. Avoid freezing. Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.**

In case of emergency endangering health call SafetyCall® International (866) 897-8050.

Precautionary Statement

Hazards to Humans and Domestic Animals

CAUTION: Causes moderate eye irritation. Harmful if swallowed. 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. Remove contaminated clothing and wash clothing before reuse. Wear safety glasses or goggles, long sleeve shirt, long pants, shoes and socks, and chemical-resistant gloves. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals. Skin exposure may also result in a sensation described as tingling, itching, burning or prickly feeling. Onset may occur immediately to 4 hours after exposure and may last 2 to 30 hours, without damage. Wash exposed areas thoroughly with soap and water. Relief from skin sensation may be obtained by applying an oil-based cream.

First Aid

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If swallowed: Call a poison control center or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

Note to Physician: Induced vomiting as first aid for this substance may result in increased risk of chemical pneumonia or pulmonary edema caused by aspiration of the hydrocarbon solvent. Vomiting should be induced only under professional supervision.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact SafetyCall® International (866) 897-8050 for emergency medical treatment information.

Environmental Hazards

This pesticide is extremely toxic to fish and aquatic organisms and toxic to wildlife. 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 to avoid run off to water bodies or drainage systems.

Do not allow applications to contact water inhabited by fish, such as aquariums and ornamental fish ponds that are located in and around structures being treated.

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 or store near heat or open flame.

Do not use **OPTIMATE CS** in conduits, motor housings, junction boxes, switch boxes, or other electrical equipment because of possible shock hazard.

Directions for Use

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

Do not dilute this product with oil.

Apply this product directly to lawn or garden area. Water treated area as directed on this label. Do not water to the point of run-off.

Do not make applications during rain.

Application is prohibited directly into sewers or drains, or to any area like a gutter where drainage to sewers, storm drains, water bodies, or aquatic habitat can occur. Do not allow the product to enter any drain during or after application.

Let treated surfaces dry before allowing humans and pets to contact these surfaces.

This product is RESTRICTED for use in New York State.

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 lawns, 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.

PREMISE AND PERIMETER PEST CONTROL

OPTIMATE 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, industrial buildings, houses, patios, porches, closets, furniture, apartment buildings, mobile homes, laboratories, buses, greenhouses (non-commercial), stores, factories, warehouses, wineries, vessels, railcars, trucks, trailers, aircraft (cargo and other non-cabin areas only), schools, nursing homes, hospitals, mausoleums, restaurants, hotels, correctional facilities, 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, **OPTIMATE CS** can be reapplied at 21-day intervals if necessary.

Mixing Instructions

Dilute **OPTIMATE 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® or Actisol® 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 **OPTIMATE 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.

OPTIMATE CS may be applied by using a paintbrush or other porous applicator attached to a handle as a general surface treatment.

Tank Mixing

OPTIMATE 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, **OPTIMATE 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.

OPTIMATE 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

OPTIMATE CS may be converted to a foam and the foam used to treat premise 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 PESTS (HAND APPLICATION EQUIPMENT)

Pests	Dilution Rate (Concentration of AI)	Specific Use Directions
Ants	0.0075% AI	Ants: Apply to any trails around doors and windows and other places where ants may be found. 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 Outdoor Surfaces Use.
Bedbugs (adult)	0.16 fl oz (5 mL) / gal water	
Bees	0.5 fl oz (15 mL) / 3 gal water	
Boxelder Bugs	0.015% AI	
Carpenter Bees	0.33 fl oz (10 mL) / gal water	
Carpet Beetles	1.0 - 2.0 fl oz (30 mL) / 3 gal water	
Centipedes		
Cigarette Beetles		
Clover Mites		
Cockroaches (1)		
Confused Flour Beetles		
Crickets		

(continued)

Pests	Dilution Rate (Concentration of AI)	Specific Use Directions
Earwigs Firebrats Fleas (2) Flies (including House flies, stable flies, little house flies) Lesser Grain Borers Millipedes Mosquitoes Red Flour Beetles Rice Weevils Saw-toothed Grain Beetles Silverfish Sowbugs Spiders Ticks Wasps		<p>Bedbugs: 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. Do not apply to furniture surfaces or mattresses where people will be laying or sitting. Infested bedding should not be treated, but should be removed, placed in sealed plastic bags, and taken for laundering and drying at high temperatures.</p> <p>Cockroaches, Crickets, Earwigs, Firebrats, Silverfish, and Spiders: 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 Outdoor Surfaces Use.</p> <p>Bees, Flies, Mosquitoes, and Wasps: 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 Outdoor Surfaces Use. Use caution when treating nests of stinging insects as OPTIMATE CS does not provide instant knockdown. Protective equipment for the applicator may be required. Treat bee, wasp and hornet nests late in the day when most insects will be present. Allow 2-3 days for the colony to die and repeat if necessary.</p> <p>Carpenter Bees: 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>Pantry Pests (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>Boxelder Bugs, Centipedes, Millipedes, Pillbugs, and Sowbugs: 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 Outdoor Surfaces Use.</p> <p>Fleas and Ticks: To control nuisance fleas and ticks (e.g. dog ticks) apply to kennels, yards, runs, and other areas where pets may frequent. 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 spot treatments, and retreat monthly 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 Outdoor Surfaces Use.</p> <p>Cluster Flies: 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>Litter Beetles (Darkling, Hide, and Carrion Beetles) and Flies In Animal Housing (Such As Poultry Houses): To control adult litter beetles, apply OPTIMATE CS to walls and floors at cleanup, 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 Livestock/Poultry Housing Structures and Pet Kennels.</p>
Cockroaches (1) Crickets (6) Flies (5) Litter beetles (3) (Darkling, Hide and Carrion beetles) Mosquitoes (4) Pillbugs Scorpions Sowbugs Spiders (6) Spider Mites (Two-spotted, Spruce) Ticks (6)	0.03% AI 0.65 fl oz (20 mL) / gal water 2.0 fl oz (60 mL) / 3 gal water	<p>Termites (above ground only)</p> <p>OPTIMATE CS may be used on termites 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 to control subterranean termites, soil treatment labeled termiticides, or fumigation for extensive infestation of drywood termites or other wood-infesting insects, but are considered supplemental. This product is not recommended as sole protection against termites. For active termite infestations, get a professional inspection.</p>

Pests	Dilution Rate (Concentration of AI)	Specific Use Directions
		<p>Note: One gallon finished dilution typically treats 500 – 1000 sq. ft.</p> <p>¹ For cockroaches, the recommended rate for maintenance treatments is 0.0075% and for clean-out treatments is 0.015%. For control of severe infestations, use 0.03% rate.</p> <p>² For outdoor use only and use 0.015% rate.</p> <p>³ Use the 0.015% (0.33 fl oz (10 mL) / gal water) rate for light beetle infestation.</p> <p>⁴ For residual control, use 0.03% rate.</p> <p>⁵ In all states except California, rates for flies may be increased to 0.03% when environmental conditions are severe and/or populations are high.</p> <p>⁶ For clean-out/severe infestations, use 0.03% 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 may 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: **OPTIMATE CS** may be used as a general surface and/or crack and crevice treatment. Treat interior and exterior perimeter applications in and around livestock, poultry and pet housing structures for optimum control. Suitable cleaning practices of the structure must also be followed along with applications of **OPTIMATE CS** insecticide to effectively control the listed insects.

LITTER BEETLES: To control adult litter (darkling, hide and carrion beetles) beetles in animal housing, including poultry housing, apply **OPTIMATE CS** insecticide to walls and floors at each grow-out or sanitation procedure, before reintroduction of poultry or other animals. Re-apply after each grow-out or sanitation procedure to control beetles that escaped earlier treatment and delay the onset of further infestations. Beetles frequently occur in areas such as on walls, supports, cages, stalls and around feeders, so pay careful attention to these places. For poultry houses where birds are grown on litter, treat the floor area. For poultry houses where birds are grown in cages, treat the walls, posts, cage framing and into cracks and crevices around insulation. Also apply as a perimeter treatment around the outside of the building foundations to prevent beetles from entering from outside. To prevent populations from reaching a problem level, a year-round maintenance program is highly recommended.

RESTRICTIONS:

- **DO NOT** make applications of **OPTIMATE CS** insecticide in areas where animals, except for cattle and calves, are present in the facility. Allow treated surfaces to dry completely 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.

Outdoor Surfaces And Perimeters

To control flies, fleas, mosquitoes, ants, bees, wasps, centipedes, cockroaches, crickets, pillbugs, scorpions, sowbugs, spiders, termites* (above ground only), ticks and other listed insect pests, apply **OPTIMATE CS** with either hand or power application equipment as a residual treatment to ornamental plants next to foundations of buildings and to external surfaces of buildings, porches, screens, door and window frames, eaves, patios, garages, refuse dumps and other areas where insects rest or congregate. **OPTIMATE CS** may also be applied to lawns around non-residential buildings, or to refuse dumps or other non-residential areas where these insect pests congregate. Remove all exposed food and cooking utensils. Cover all food handling surfaces or wash thoroughly after treatment and before use. Do not use on edible crops.

For Perimeter 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.

*May be used on termites 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 to control subterranean termites, soil treatment labeled termiticides, or fumigation for extensive infestation of drywood termites or other wood-infesting insects, but are considered supplemental. This product is not recommended as sole protection against termites. For active termite infestations, get a professional inspection.

Rate Table For Perimeter Barrier Applications

Application Rate: Fl. oz. (mL) of OPTIMATE CS	Gals. of Water ¹	Area of Coverage (sq. ft.)
0.08 fl. oz. (3mL)	1-5 gals.	800-1600 sq. ft
0.16 fl. oz. (6 mL)	1-5 gals.	800-1600 sq. ft
0.32 fl. oz. (12 mL)	1-5 gals.	800-1600 sq. ft

¹ 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 OPTIMATE CS per 1,000 sq. ft.	Fl. oz. (mL) of OPTIMATE CS to Dilute in Water According to Spray Tank Volumes		
		5 gals.	10 gals.	50 gals.
1 gal. per 1,000 sq. ft.	0.08 fl. oz. (3mL) 0.16 fl. oz. (6mL) 0.32 fl. oz. (12 mL)	0.40 fl. oz. (15 mL) 0.80 fl. oz. (30 mL) 1.6 fl. oz. (60 mL)	0.80 fl. oz. (30 mL) 1.6 fl. oz. (60 mL) 3.2 fl. oz. (120 mL)	4 fl. oz. (150 mL) 8 fl. oz. (300 mL) 16 fl. oz. (600 mL)
2 gal. per 1,000 sq. ft.	0.08 fl. oz. (3mL) 0.16 fl. oz. (6mL) 0.32 fl. oz. (12 mL)	0.25 fl. oz. (7.5 mL) 0.40 fl. oz. (15 mL) 0.80 fl. oz. (30 mL)	0.40 fl. oz. (15 mL) 0.80 fl. oz. (30 mL) 1.6 fl. oz. (60 mL)	2.0 fl. oz. (75 mL) 4 fl. oz. (150 mL) 8 fl. oz. (300 mL)
5 gal. per 1,000 sq. ft.	0.08 fl. oz. (3mL) 0.16 fl. oz. (6mL) 0.32 fl. oz. (12 mL)	0.08 fl. oz. (3mL) 0.16 fl. oz. (6mL) 0.32 fl. oz. (12 mL)	0.16 fl. oz. (6 mL) 0.32 fl. oz. (12 mL) 0.64 fl. oz. (24 mL)	0.80 fl. oz. (30 mL) 1.6 fl. oz. (60 mL) 3.2 fl. oz. (120 mL)

Example calculation: to apply the mid-rate of **OPTIMATE CS** at a volume of 5 gal./1000 sq. ft., mix 2 oz of concentrate in 50 gallons of water. The percent active ingredient in the finished **OPTIMATE CS** dilution can be calculated with the following formula: mL needed to add times 5.9% active in concentrate, divided by gal. finished dilution times 3785 mL/gal. = % active in dilution. (Example: 2 oz. in 50 gal. is 60 mL times 5.9 equals 354, and 50 gal. times 3785 is 189250. Dividing 354 by 189250 equals 0.002% active in the tank dilution.)

NOTE: Do not use water based sprays of **OPTIMATE CS** in conduits, motor housings, junction boxes, switch boxes, or other electrical equipment because of possible shock hazard. Thoroughly wash out sprayer and screen with water and detergent before using **OPTIMATE CS**. **OPTIMATE 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 institutions (including libraries, sports facilities, etc.) in the immediate area when occupants are present.
- **DO NOT** apply to classrooms when in use.
- **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

OPTIMATE 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 premise pest control rates, reflecting that treatment intervals are more frequent.

Applicators must ensure that they are certified in the necessary pesticide certification categories to allow application of **OPTIMATE CS** away from structures, such as to turf and ornamental plantings. Premise 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

OPTIMATE 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 **OPTIMATE CS**. It is suggested that the water be 5 - 7 pH. Adjust water pH with a buffering agent if necessary. Slowly add **OPTIMATE 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

OPTIMATE 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, **OPTIMATE 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.

INSECT CONTROL on ORNAMENTAL PLANTS

OPTIMATE 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.

RESTRICTIONS:

- **DO NOT** apply more than 0.18 lbs. of the a.i. (26.2 fl. ozs. of concentrate) per acre per year.

TANK DILUTION RATES FOR ORNAMENTAL PESTS

Pest	Amount Of OPTIMATE 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 Thrips Tip moths Tussock moth larvae Wasps	0.6-2.0 fl. oz. per 100 gals. or 17.6 - 59.2 mL per 100 gals.	Application to ornamentals should be started prior to the establishment of high insect pest populations. Apply at 7-day intervals if retreatment is necessary. Limit more frequent treatment to spot treatments. 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. For spot treatments use 0.20 fl. oz. OPTIMATE CS per 1 - 2.5 gals. of water. Consult your state university or local Cooperative Extension Service office for specific pest control application timing in your area. Scale: Thoroughly cover the plant with OPTIMATE CS spray, including trunks, stems, twigs, and foliage for control of scale insects (crawler stage). Bagworm: Apply OPTIMATE CS when bagworm larvae begin to hatch. Spray directly on the larvae. Application is the most effective when the larvae are young.
Broadmites Brown softscales California redscales (crawlers) Clover mites Mealybugs Pineneedlescales (crawlers) Spider mites Whiteflies	1.2 - 2.0 fl. oz. per 100 gals. or 35.2 - 59.2 mL per 100 gals.	

OPTIMATE CS Mixing Chart for Ornamental Insect Pest Control (OPTIMATE CS to add per spray tank)

Rate of OPTIMATE CS	25 Gals.	50 Gals.	100 Gals.	200 Gals.	300 Gals.
0.75 oz. ¹	0.16 oz.	0.32 oz.	0.60 oz.	1.2 oz.	1.80 oz.
1.5 oz. ²	0.32 oz.	0.60 oz.	1.2 oz.	2.4 oz.	3.6 oz.
2.5 oz. ³	0.52 oz.	1.00 oz.	2.0 oz.	4.0 oz.	6.0 oz.

¹ Equivalent to 1.4 mL per 1,000 sq. ft. (4 oz. per acre) when applied at 8 gal. per 1,000 sq. ft.
² Equivalent to 2.8 mL per 1,000 sq. ft. (8 oz. per acre) when applied at 8 gal. per 1,000 sq. ft.
³ Equivalent to 3.8 mL per 1,000 sq. ft. (11.2 oz. per acre) when applied at 8 gal. per 1,000 sq. ft.

LAWN/TURFGRASS INSECT PEST CONTROL

OPTIMATE 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 0.18 lbs. of a.i. (26.2 fl. oz. of concentrate) per acre per year.

RATES FOR LAWN AND TURFGRASS PESTS

Pest	Amount Of OPTIMATE CS*	Application Instructions
Ants (Including Imported Fire Ants) Armyworms Centipedes Crickets Cutworms Earwigs Fleas (adult) Grasshoppers Japanese beetles (adult) Millipedes Mites Mosquitoes (adult)	2.0 - 4 fl. oz. per 1,000 sq. ft. or 2.0 - 2.8 mL per acre	Application to turf should be started prior to the establishment of high insect pest populations and significant turf damage. 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 spot treatments , use 0.20 fl. oz. of OPTIMATE CS per 1 - 2.5 gals. of water. Surface Insect Control (armyworm, cutworms, fleas, etc.): Apply OPTIMATE CS at recommended rates in 2 - 5 gals. of 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 to control surface-feeding insect pests.

Pest	Amount Of OPTIMATE CS*	Application Instructions
Pillbugs Sod webworms Sow bugs Ticks (including species which transmit Lyme disease)		Thatch Inhabiting Insect Control (chinch bugs, billbugs, etc.): Apply OPTIMATE CS 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 OPTIMATE CS into the thatch layer. If irrigation is not available, then use high water application rates.
Bluegrass billbugs (adult) Black turfgrass atanius (adult) Chiggers Fleas (adult) Grubs (suppression) Hyperodes weevils (adult)	2.8 fl. oz. per 1,000 sq. ft. or 4 mL per acre	
Mole crickets (nymphs and young adults)		Subsurface Insect Control (mole crickets, grubs, etc.): Apply OPTIMATE CS 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 OPTIMATE CS to turf wet with dew, rain or irrigation. Water-in immediately after application with ¼ - ½ inch of water. Fire Ant Control: Treat individual mounds with a drench application using a watering can. Use 0.25 fl. oz. of OPTIMATE CS 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. Apply in early morning or late evening hours. You may make applications on a monthly basis to maintain protection of treated areas. Mosquito Control: Apply as a general spray around landscape plantings, turf, and building foundations to control mosquitoes. Apply OPTIMATE CS at recommended rates in 2 - 5 gals. of water per 1,000 sq. ft.

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

* Example: To treat the listed turf pests at the 3.5 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 3.5 mL and divide it by the 5 (gallon) to get 0.7 mL to be added per gallon. For a 50 gallon tank, therefore, this would be 0.7 mL X 50 = 35 mL (or 1.25 oz.) in 50 gallons of water.

OPTIMATE CS Mixing Chart for Turf Insect Pest Control
(OPTIMATE CS to add per 100 gal. spray tank)

Rate of OPTIMATE CS	Application Rate Per 1,000 Square Feet of Turf				
	2 gal.	4 gal.	6 gal.	8 gal.	10 gal.
2.5 oz. per acre	2.30 oz.	1.15 oz.	0.77 oz.	0.57 oz.	0.46 oz.
5 oz. per acre	4.59 oz.	2.30 oz.	1.53 oz.	1.15 oz.	0.92 oz.
10 oz. per acre	9.2 oz.	4.59 oz.	3.06 oz.	2.30 oz.	1.84 oz.

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

INTEGRATED PEST AND RESISTANCE MANAGEMENT

Many insects have demonstrated the ability to develop resistance to insecticides. Frequent exposure of flies and other insects to a single class of insecticide may lead to the development of resistance to that class of insecticide. The following resistance management strategy will help ensure the prolonged usefulness of this and other conventional insecticides.

- Use OPTIMATE CS insecticide and other insecticides only according to label directions.
- Do not use less than the labeled rate of any insecticide.
- Include multiple cultural and/or biological controls within an Integrated Pest Management Program.
- Rotate OPTIMATE CS insecticide with other classes of insecticide (naturalytes, phenyl pyrazoles, chloronicotinyls, and organophosphates, etc.) during an insect pest season.

For advice concerning integrated pest management practices in relation to local conditions, consult resources in resistance management programs, or your Cooperative Agricultural Extension Service.

Storage and Disposal

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

Pesticide Storage: Store in original containers only. Keep container closed when not in use. Do not store near food or feed. Do not store near heat or open flame. **Do not allow product to freeze.**

In case of spill or leak on floor or paved surfaces, soak up with sand, earth or synthetic absorbent. Remove to chemical waste area.

Pesticide Disposal: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If wastes cannot be disposed of according to label directions, contact your State Pesticide or Environmental Control Agency, or Hazardous Waste representative of the nearest EPA Regional Office for guidance. Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Nonrefillable Containers 5 gallons or less:

Container Disposal: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available, 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.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Terms and Conditions of Use

If terms of the following Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. Otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies.

Warranty Disclaimer

Control Solutions Inc. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. To the extent consistent with applicable law, Control Solutions Inc. MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Control Solutions Inc. or the seller. All such risks shall be assumed by buyer.

Limitation of Remedies

To the extent consistent with applicable law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Control Solution Inc's election, one of the following:

- (1) Refund of purchase price paid by buyer or user for product bought, or
- (2) Replacement of amount of product used

To the extent consistent with applicable law, Control Solutions Inc. shall not be liable for losses or damages resulting from handling or use of this product unless Control Solutions Inc. is promptly notified of such loss or damage in writing. To the extent allowed by law, Control Solutions Inc. shall not be liable for special, indirect or consequential damages resulting from the use or handling of this product.

The terms of the Warranty Disclaimer, Inherent Risks of Use, and this Limitation of Remedies cannot Control Solutions Inc. or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

Section 5 – Fire and Explosion Hazards

Flash Point:	Will not flash.	Upper Flammability Limit:	N/A
Extinguishing Media:	Foam, dry chemical, CO ₂ , water fog	Lower Flammability Limit:	N/A
Special Procedures:	Use SCBA with full-face piece and protective clothing.		
Unusual Fire Hazards:	Possible toxic smoke, vapors, fallout and runoff water can result from fires.		
Reactivity/Stability:	Toxic and irritating gasses may form when burned or heated. Hazardous polymerization will not occur.		

Section 6 – Spill/Release Procedures

Absorbent:	Universal absorbent pads, vermiculite, absorbent booms, or clay granules.		
Containment:	Do not discharge into municipal wastewater or public storm drains. Eliminate runoff as much as possible.		
Waste Disposal:	Dispose of contaminated material in municipal land fill or through licensed TSDF. Not a hazardous waste under RCRA, 40 CFR 261.		
Reporting:	Report all major spills and uncontrolled releases to proper local, state, and federal agencies.		
Emergency Contact #:	Chemtrec: 1-800-424-9300		

Section 7 – Storage and Handling Instructions

Storage Conditions:	Do not store near foodstuffs or feed. Store in a cool, dry, well-ventilated area away from flammable materials and sources of heat. Keep away from oxidizing agents and alkaline material.		
Special Handling Considerations:	Exercise caution to prevent damage to or leakage from the container. Workers should follow good hygiene practices to avoid accidental ingestion.		
Container Disposal:	Do not reuse empty containers. Triple rinse (or equivalent), then offer for recycling or render unusable and dispose of in municipal landfill or with licensed TSDF.		

Section 8 – Protective Equipment/Engineering Controls

Eye Protection:	None required. ANSI approved safety goggles or glasses with side shields are recommended.		
Respiratory Protection:	None required. Use OSHA approved air purifying respirator with combination OVAG and P100 cartridge.		
Dermal Protection:	Gloves, long sleeves, pants and shoes.		
Engineering Controls:	Use only in adequately ventilated areas.		

Section 9 – Physical Data

Odor:	Aromatic	Melting Point:	Below 0°C
Physical State:	Liquid	Flash Point:	Will not flash.
Color:	Opaque off-white	Specific Gravity:	1.02 g/ml
Bulk Density:	See specific gravity	pH:	5.57
Vapor Pressure:	7.73 E ⁻¹⁰ mmHg	Water Solubility:	Disperses in water
Viscosity:	Non-Newtonian fluid. Increases with shear rate.	Refractive Index:	N/A

Section 10 – Toxicity

EPA Toxicity Category:	“Caution” label required	Oral LD ₅₀ :	4444 mg/kg
Skin Contact:	Slightly irritating. Causes parasthesia.	Dermal LD ₅₀ :	>5000 mg/kg
Eye Contact:	Slightly irritating.	Inhalation LC ₅₀ :	>2.31 mg/l (4 hour)
HMIS/NFPA Classification:	Fire - 0 Health - 2 Reactivity - 0	Fire - 0 Health - 2 Reactivity - 0 Special - none	
Other Comments:	Avoid cross contamination. Always wash hands thoroughly after handling pesticides and before eating, drinking, or smoking.		

Section 11 – Ecological Data

Aquatic:	Gamma Cyhalothrin LC ₅₀ : 27.1 ug/l for rainbow trout
Avian:	Gamma Cyhalothrin LD ₅₀ : >5000 mg/kg for bobwhite quail
Bioaccumulation:	Has potential to bioaccumulate.
Summary:	This product is extremely toxic to fish. Do not apply directly to water. Do not contaminate water when disposing of wastes.

Section 12 – Transportation

DOT:	Not regulated.
IATA:	Not regulated.
IMDG:	UN3082, Environmentally hazardous substance, liquid n.o.s (gamma cyhalothrin), Class 9, PG III, marine pollutant

Section 13 – Regulatory

Section 302/TPQ: (emergency planning)	Contains no components listed under section 302.
Section 304/EHS RQ: (release notification)	Contains no components listed under section 304.
CERCLA RQ: (release notification)	Not regulated by CERCLA.
Section 311/Tier II: (MSDS submission)	Acute health hazard.
Section 313/TRI Chemicals:	None.
RCRA Haz-Waste Code(s):	Not an RCRA hazardous waste.
CAA TQ: (air emissions)	None.

Section 14 – Other

NFPA and HMIS ratings assigned to this product are based on the hazards of its ingredient (s). Because the customer is most aware of the application of the product, he must ensure that the proper personal protective equipment (PPE) is provided consistent with information contained in the product MSDS.

The information provided on this Material Safety Data Sheet is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Control Solutions, Inc. The data on this sheet relates only to the specific material designated herein. Control Solutions, Inc. assumes no legal responsibility for the accuracy or completeness of this data, nor for use or reliance upon this data.

NOTES

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