



**Control  
Solutions Inc.**

A member of the ADAMA Group

# D-Fense™ SC

## Insecticide

**Intended For Use by Pest Control Operators and/or Commercial Applicators  
For Residential, Industrial and Institutional Use  
For Use In and Around Grain Storage Facilities**

- Provides Control of Listed Insect/Pests in and around the Home
- For Insect Control on Commercial and Residential Turf and Landscape Ornamental Plants
- For crack and crevice and spot applications in homes, hotels, schools and food handling establishments.
- Controls ants, bedbugs, cockroaches, fleas, flies, silverfish, spiders and many other listed pests.
- Mattress application for bedbugs and lice.
- Broadcast spray for lawns and turfgrass to control fleas, ticks and other listed insects.
- Concentrated suspension of micro-crystals
- Long lasting residual
- For use on Paints, Plastics, Fabrics and other surfaces
- Kills crawling and flying insects when exposed to treated surfaces.
- Protects Stored Grains and seeds against damage from Indian Meal Moth, Saw-Toothed Grain Beetle, Red Flour Beetle, Rice Weevil, Maize Weevil, and many other listed pests.
- Agitate Well

**ACTIVE INGREDIENT:**

\* Deltamethrin .....4.75%

**OTHER INGREDIENTS :** .....95.25%  
100.00%

\*Contains 0.42 lb deltamethrin per gallon.

EPA Reg. No.: 53883-276

EPA Est. No. : XXXXX-XX-XXX

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

**PRECAUCION AL USARIO:** Si usted no lee ingles, no use este producto hasta que la etiqueta le haya sido explicada amplimente. **(TO THE USER:** If you cannot read English, do not use this product until the label has been fully explained to you.)

See Precautionary Statements, Storage and Disposal instructions and Directions for Use.

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

NET CONTENTS: 1 Pint or 1 Gallon

**PRECAUTIONARY STATEMENTS**  
**HAZARDS TO HUMANS & DOMESTIC ANIMALS**  
**CAUTION**

Harmful if inhaled. Avoid breathing vapor or spray mist. Contact with product may result in transient tingling and reddening of the skin. Remove contaminated clothing and wash before reuse.

FIRST AID	
<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 by mouth-to-mouth, if possible.</li><li>• Call a poison control center or doctor for further treatment advice.</li></ul>
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact SafetyCall® (866) 897-8050 for emergency medical treatment information.	

**Environmental Hazards**

This product is extremely toxic to fresh water and estuarine fish and invertebrates. 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.

This pesticide is highly toxic to bees exposed to direct treatment. Do not apply or allow it to drift to crops or weeds on which bees are actively foraging.

**Physical and Chemical Hazards**

Do not use water-based sprays of D-Fense SC 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.**

Not for use on turf being grown for sale or other commercial use as sod, or for commercial seed production, or for research purposes.

**RESTRICTIONS:**

1. DO NOT apply D-Fense SC through any type of irrigation system.
2. DO NOT water the treated area to the point of run-off.
3. DO NOT make applications during rain.
4. DO NOT apply this product to edible crops.
5. DO NOT apply this product in hospital patient rooms while occupied or in any rooms occupied by the elderly or infirm.
6. DO NOT apply in classrooms when in use.
7. DO NOT apply to institutions (including libraries, sport facilities, etc.) in the immediate area when occupants are present.
8. Do not apply this product more than once every 21 days.

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

- a. Treatment to soil or vegetation around structures;
- b. Applications to lawns, turf, and other vegetation;
- c. 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.

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 this product to enter any drain during or after application.

## PRODUCT INFORMATION

D-Fense SC is a suspension concentrate insecticide for use both indoors and outdoors for effective knockdown and long residual control of listed pests.

### Mixing Instructions

Mix D-Fense SC with water and apply using a hand pressurized or power operated sprayer, such as Actisol® or similar equipment. For outdoor broadcast application, apply as a coarse spray or with conventional hydraulic boom-type sprayer or other suitable equipment. Shake container well before using.

### Dilution Instructions:

- add half the water to the spray tank;
- add D-Fense SC as specified in the appropriate application rates table;
- agitate well;
- add the remaining water slowly to avoid excess foam;
- thoroughly agitate the sprayer before using to insure proper suspension.

**Note:** If spraying is stopped when using a back-pack or hand-held spray equipment, reinvert sprayer before use. If spray screens are used, they must be 50 mesh or larger. Dilute D-Fense SC only with water. Only prepare the spray solution when ready to make applications.

**Tank Mixing:** Tank mix D-Fense SC with other currently registered pesticides unless prohibited by the product label. To check for product compatibility, a small volume mixing test with other products is recommended. Follow all restrictions and precautions specified on the labels of these tank-mix products.

## PEST CONTROL INDOORS

D-Fense SC may be applied in and around residential and non-residential buildings including residential kitchens and food/feed handling establishments.

Mix D-Fense SC with water and apply indoors as a crack and crevice, spot or general surface treatment with hand pressurized or power operated sprayers or other suitable equipment.

**For residential buildings and structures** - apply only as a crack and crevice or spot treatment.

Approved use sites include the food/feed and non-food/non-feed areas of:

Aircraft (cargo only)	Food service establishments	Mobile & motor homes
Apartment buildings	Granaries & grain mills	Nursing homes
Bakeries	Hospitals	Offices
Bottling facilities	Hotels	Railcars
Breweries	Houses	Restaurants
Buses	Industrial buildings	Schools
Cafeterias	Installations	Ships & vessels
Candy plants	Kitchens	Trailers
Canneries	Laboratories	Trucks
Dairy product processing plants	Mausoleums	Warehouses
Food manufacturing plants	Meat, poultry & egg processing & packaging plants	Wineries
Food processing plants		

**Crack and Crevice:** Apply D-Fense SC spray mixture to cracks and crevices in and around baseboards, floors, walls, appliances, areas around water and sewer pipes, and other voids with a low pressure system using a pinpoint or variable pattern nozzle.

**Spot Treatment:** Apply D-Fense SC as a spot treatment in and around cupboards, and between, beneath and behind equipment or appliances using a low pressure system with fan-type nozzle.

**To control of carpet beetles, fleas and ticks indoors:** Apply as a coarse, low pressure crack and crevice spot treatment to problem areas and infested habitats.

**Restrictions:**

- Do not treat entire area of floor, carpet or floor coverings.
- Do not apply as a space spray.
- Do not make applications to areas where prolonged contact by humans can occur.
- Limit spot treatment to pet beds and infested floor coverings.

Application Rates			
Pests	Concentration of Active Ingredient <sup>1</sup>	Dilution Rate <sup>2</sup>	Use Instructions
ants, carpet beetles, firebrats, fleas, gnats, midges, centipedes, millipedes, pantry pests, silverfish, ticks (indoors)	0.01% - 0.03%w/w	0.25-0.75 fl. oz./gal 12.5-37.5 fl. oz./50 gals 25-75 fl. oz./100 gals	Apply at 21-day intervals. Remove pets and cover aquariums and terrariums before spraying. Do not apply to classrooms when in use. Do not use in aircraft cabins.
Bees, bedbugs, boxelder bugs, fleas (outdoors), ticks (outdoors), cecid flies, cockroaches, crickets, flies (including such flies as stable, house, cluster and horseflies), elm leaf beetles, ground beetles, moths, midges, hornets, killer bees, lice, mosquitoes, Multicolored Asian Lady Beetle, pillbugs, scorpions, sowbugs, spiders, yellowjackets, wasps	0.03% - 0.06%w/w	0.75-1.5 fl. oz./gal 37.5-75 fl. oz./50 gals 75-150 fl. oz./100 gals	Treat areas that insects inhabit or where they are normally found. Use 0.25 to 1.5 fluid ounces of D-Fense SC in sufficient amount of water and apply to adequately cover 1000 square feet. Do not allow dripping or run-off to occur. Under conditions of severe pest infestation, when quick knockdown and/or longer residual control is desired, use 1.5 ounces of 0.06% D-Fense SC per 1,000 sq. ft.
Termites (Formosan & Eastern subterranean - localized control only)	0.06% w/w	1.5 fl. oz./ gal 75 fl. oz./50 gals 150 fl. oz./100 gals	
Carpenter ants	0.03% w/w	0.75 fl. oz./gal 37.5 fl. oz./50 gals 75 fl. oz./100 gals	
<sup>1</sup> The specified rate for maintenance treatments is 0.01% and for cleanout treatments is 0.03%. For control of severe infestations and longer residual control use the 0.06% rate. More frequent applications may be needed on concrete surfaces. <sup>2</sup> 0.25 fl. oz.= 7.5 milliliters 0.75 fl. oz.= 22.7 milliliters 1.5 fl. oz.= 45.4 milliliters			

### **Premise Pest Control**

To control Cockroaches, Ants, Crickets, Silverfish, Firebrats, Centipedes, Millipedes, Cloth Moths, Earwigs, Pillbugs, Sowbugs, Scorpions and Spiders

**Use Instructions:** Apply as a coarse, low pressure spot or crack and crevice spray to areas that these pests are found especially dark corners of rooms and closets; floor drains; cracks and crevices in walls; along and behind baseboards; beneath and behind sinks, stoves, refrigerators, and cabinets; around plumbing and other utility installations; doors, windows and in attics and crawl spaces. Make applications to floor surfaces along baseboards and around air ducts. Allow surfaces to dry before children or pets come into contact.

### **Pantry Pest Control**

To kill adult and manageable stages of insect pests such as Lesser Grain Borers, Grain Weevils, Flour Beetles, Saw-toothed Grain Beetles, Cigarette Beetles, Merchant Grain Beetles, Angoumois Grain Moths, Mediterranean Flour Moths, Indian Meal Moths, Grain Mites and Spider Mites.

**Application Instructions:** Apply to cupboards, shelving and storage areas. Before spraying, remove all foodstuffs, utensils, shelf paper and other objects. Allow treated surfaces to dry and cover shelves with clean paper prior to replacing foodstuffs, utensils or other items. Discard any foodstuff accidentally contaminated with any spray solution.

### **Crawling and Flying Insect Pests**

D-Fense SC controls crawling and flying insects such as flies, gnats, midges, mosquitoes, cockroaches, ants and silverfish.

**Application Instructions:** Use as a residual surface treatment to walls, ceilings, window screens and other resting areas inside residential buildings, as well as in and around carports, garages, storage sheds, unoccupied horse stables and pet kennels.

**Ants** (including Pharaoh Ants): D-Fense SC may be applied to areas including where ants enter premises or live, and to trails, around doors and windows.

**Bedbugs and Lice:** Remove bed linens and wash before reuse. Apply D-Fense SC to mattresses taking care to treat tufts, folds and edges until moist. Make application to the interior of the bed frame. Before remaking the bed, make sure the mattress is dry.

**Carpet Beetles, Fleas and Ticks:** Use of an IPM (integrated pest management) program should be followed. Before starting to treat, vacuum carpets, upholstered furniture, baseboards and other indoor areas where pets spend time. After vacuuming, discard the vacuum cleaner bag outside in a garbage can. Clean or replace pet bedding.

**Application Instructions:** Apply D-Fense SC as a uniform coarse low-pressure spot or crack and crevice treatment to areas where pests are found. Limit spot treatments to pet bedding and its surrounding area, infested floor coverings and pest habitats.

### **Restrictions:**

- Do not treat entire area of floor, carpet or floor coverings.
- Use a dust such as [D-FENSE™ Dust] [Deltadust®] in areas around electrical equipment.
- Do not apply as a space spray.
- Restrict applications to furniture where no prolonged contact by humans will occur.
- Do not allow people or pets to contact treated areas until spray has dried.

D-Fense SC can be used with an Insect Growth Regulator (IGR). For effective control of fleas, treatment directly to the pet with an EPA registered product for such use, as well as treating outside areas pets frequent may be required. D-Fense SC can also be applied outdoors for flea control. DO NOT treat pets with this product.

**Pet Kennels:** D-Fense SC may be applied to control crawling and flying insects in and around pet kennels. Make application as a general surface and/or crack and crevice spray. For best results, at the same time, clean the facility to be treated and use D-Fense SC to treat the exterior perimeter.

**Restrictions:**

- Apply only to areas of facility where animals are not present.
- Allow spray to dry before allowing re-entry of animals into treated areas.
- Do not apply to animal feed or watering equipment.

**FOOD/FEED HANDLING ESTABLISHMENTS**

Applications are permitted in food/feed and non-food/non-feed areas of food/feed handling and processing establishments as a general surface, spot or crack and crevice treatment to control of labeled pests.

Food/Feed handling establishments are defined as places other than private residences in which exposed food/feed is held, processed, prepared or served. Included also are areas for receiving, storing, packing (canning, bottling, wrapping, boxing), preparing, edible waste storage and enclosed processing systems (mills, dairies, edible oils, syrups) of food/feed. Serving areas where food/feed is exposed and the facility is in operation are also considered food/feed areas.

**Non-Food/Non-Feed Areas:** Areas include garbage rooms, lavatories, floor drains (to sewers), entries and vestibules, offices, locker rooms, machine rooms, boiler rooms, mop closets and storage (after packaging, canning or bottling). Treat any area that insects are observed in or where insects may enter.

**General Surface Applications:** Before application cover or remove all food/feed processing and/or handling equipment. After application, wash all equipment, benches, shelving and other surfaces that food/feed will contact in food/feed processing plants, cafeterias and similar facilities. Clean food/feed handling or processing equipment and rinse well with clean, fresh water. After application in bakeries, clean all food contact surfaces thoroughly with appropriate equipment.

**Restrictions:**

- Do not use this application method in the food/feed handling areas of the facility when the facility is in operation or foods/feeds are exposed.
- Do not apply to food/feed products.

**Spot or Crack & Crevice Applications:** Except in federally inspected meat and poultry plants, spot or crack and crevice applications may be made while the facility is in operation provided exposed food is covered or removed from area being treated prior to application.

**Restrictions:**

- Application is prohibited in Federally inspected meat and poultry plants while such facility is in operation.
- Do not apply to food or food-handling surfaces.
- In the home, do not allow spray to contact food/feed surfaces. If it does, clean surfaces with soap and water.

**STORED GRAIN (Except CA)**

To control adults and accessible stages of insect pests such as, lesser grain borer, larger grain borer, Angoumois grain moth, Indian Meal moth, tobacco moth, dermestids, and bean weevil; also to suppress populations of granary weevil, rice weevil, maize weevil, saw-toothed grain beetle, red flour beetle, and confused flour beetle.

**Directions for Treatment**

Dilute D-Fense SC with water for FDA approved food grade mineral or soybean oils and apply to the moving grain stream as a coarse spray to provide a concentration of 0.5 ppm of deltamethrin on the grain.

Final spray volume with water solutions - 5 gallons of liquid per 1000 bushels of grain

Final spray volume with oil solutions - Apply at oil manufacturer's rates

For water solutions, intermittent agitation is necessary. For oil solutions, constant agitation is required. For uniform treatment, use a moving grain stream.

For stored grain, apply D-Fense SC Insecticide in solution at the rate of 5 gallons of solution per 1000 bushels to achieve a 0.5 ppm concentration of deltamethrin. Apply at rates as shown in the tables below:

**AMOUNT OF D-FENSE SC INSECTICIDE/1000 BUSHEL OF GRAIN**

GRAIN	D-FENSE SC INSECTICIDE TREATMENT AT 0.5 PPM		GALLONS OF DILUTE
	FL. OZ.	ML	
BARLEY	7.31	216	5
CORN	8.53	252	5
OATS	4.88	144	5
POPCORN	8.53	252	5
RICE	6.86	202	5
RYE	8.53	252	5
SORGHUM (milo)	8.53	252	5
WHEAT	9.14	270	5

Final spray volumes to treat 100 metric tons of grain at 0.5 ppm concentrations of deltamethrin are provided in the tables below corresponding to the grain being treated.

**AMOUNT OF D-FENSE SC INSECTICIDE/100 METRIC TONS OF GRAIN**

GRAIN	D-FENSE SC INSECTICIDE PER 100 METRIC TONS AT 0.5 PPM		LITERS OF DILUTE SOLUTION
	FL.OZ.	ML	
BARLEY	33.6	993	86.9
CORN	33.6	993	74.5
OATS	33.6	993	130.4
POPCORN	33.6	993	74.5
RICE	33.6	993	92.7
RYE	33.6	993	74.5
SORGHUM (milo)	33.6	993	74.5
WHEAT	33.6	993	69.5

**SEED TREATMENT (Except CA)**

Apply D-Fense SC to protect stored grain seed against injury from stored grain insects listed above. Clean and treat seed storage areas prior to storage. If seed is insect infested, fumigate\*\* to control existing populations and apply D-Fense SC for residual protection. D-Fense SC may also be used in conjunction with registered fungicide or other insecticide seed protectants, to protect barley, corn, oats, popcorn, rice, rye, sorghum and wheat seed during the seed treating process, and prior to bagging or placing in bulk seed storage at the rate of 0.5 ppm. When treating seed with other pesticide products, the treated seed should be properly tagged, indicating the seed should not be used for food, feed or oil purposes. Seed treated with D-Fense SC alone is considered grain.

\*\*Fumigate with EPA-registered fumigant according to manufacturer's label recommendations.

## GRAIN BINS AND WAREHOUSES

Dilute 0.25-1.5 fl. oz. of D-Fense SC with water to make 1 gallon of solution. Before storing or handling grain, apply finished spray to equipment, wall and floor surfaces of grain bins and warehouses at the rate of 1 gallon per 1000 sq. ft. but do not allow run-off to occur. Apply after equipment bins and buildings have been thoroughly cleaned. Empty bins or warehouses should be fumigated with an EPA registered fumigant according to the manufacturer's label recommendations as well as areas that are difficult to get into. Use D-Fense SC as a perimeter treatment to prevent infestation of these structures. Apply to areas where pests are seen or may find entrance. Treat a band of soil or lawn up to 6-10 feet wide around and adjacent to structures and treat the foundation to a height of 2 to 3 feet. Mix 0.25-1.5 fl. oz. of D-Fense SC with water to make 1 gallon of solution. Apply as a coarse spray at a rate of 1 gallon per 1000 sq. ft. Thoroughly and uniformly wet the barrier area but do not allow run-off to occur.

## PEST CONTROL OUTDOORS

Apply D-Fense SC as a perimeter treatment, residual spray or broadcast application to lawns, grounds and ornamental plantings.

Apply as a perimeter treatment or residual spray around residential and non-residential settings. Treatments should begin at the first sighting of pests.

**Residual Spray:** Apply D-Fense SC as a coarse low-pressure spray at the rate of 0.75 to 1.5 fl.oz.to surfaces of buildings, porches, screens, window frames, eaves, patios, refuse dumps, garages and lawns.

**Perimeter Treatments:** For best results, apply D-Fense SC to areas where pests are seen and may find entrance. Treat a band of soil or lawn up to 6 -10 feet wide around and adjacent to buildings and treat the building foundation to a height of 2 to 3 feet. Apply as a coarse spray at the rate of 0.25 to 1.5 fl. oz. of D-Fense SC in sufficient amount of water. (See Mixing Directions for Perimeter Application below). Use an adequate volume to thoroughly and uniformly wet the barrier area but do not allow run-off to occur.

### MIXING DIRECTIONS FOR D-Fense SC -OUTDOOR PERIMETER APPLICATION

#### I. D-Fense SC DILUTION (0.25 oz. /1000 sq. ft.) - (Based on one home being 1,000 sq. ft.)

Tank Size	15 Gallon		25 Gallon		50 Gallon		100 Gallon	
Finished Spray: Gallons Per 1000 sq. ft	D-Fense SC Per Tank (fl. oz.)	Homes Per Tank*	D-Fense SC Per Tank (fl. oz.)	Homes Per Tank*	D-Fense SC Per Tank (fl. oz.)	Homes Per Tank*	Delta 4.75% SC Per Tank (ft. oz.)	Homes Per Tank*
1	3.75	15	6.25	25	12.50	50	25.00	100
3	1.25	5	2.08	8	4.17	16	8.33	33
5	0.75	3	1.25	5	2.50	10	5.00	20
10	0.37	1.5	0.63	2.5	1.25	5	2.50	10

\*Based on D-Fense SC applied at 0.25 ounces per 1,000 square feet treated per home or structure.

#### II. D-Fense SC DILUTION (1.00 oz. /1000 sq. ft.)

Tank Size	15 Gallon		25 Gallon		50 Gallon		100 Gallon	
Finished Spray: Gallons Per 1000 sq. ft.	D-Fense SC Per Tank (fl. oz.)	Homes Per Tank*	D-Fense SC Per Tank (fl. oz.)	Homes Per Tank*	D-Fense SC Per Tank (fl. oz.)	Homes Per Tank*	D-Fense SC Per Tank (fl. oz.)	Homes Per Tank*
1	15.0	15	25.0	25	50	50	100.0	100
3	5.0	5	8.4	8.3	16.70	16.7	33.3	33.3
5	3.0	3	5.0	5	10.0	10	20.0	20
10	1.5	1.5	2.5	2.5	5.0	5	10.0	10

\*Based on D-Fense SC applied at 1.00 ounce per 1,000 square feet treated per home or structure.



**Fleas and Ticks:** To control fleas and ticks, make application of D-Fense SC as a coarse wet spray. Treat dog houses, kennels, run areas, cracks and crevices in sidewalks, patios, areas under plants, shrubs, bushes, trees, or other moist, shaded areas where pests are known to rest.

**Fire Ants:** Dilute 1.5 oz. per one gallon of water and apply D-Fense SC as a drench treatment. Gently sprinkle 1 to 2 gallons of the diluted insecticide over the surface of each mound and surrounding area to a 2-foot diameter. Best results are obtained when applied in cool weather, 65 to 80°F or in early morning or late evening hours. Treat new mounds as they appear. Pressurized sprays may disturb the ants and cause migration, reducing product effectiveness.

**Wood-Infesting Insects:** For control of **wood-infesting beetles** on surfaces in homes and other structures, apply a 0.06% suspension of D-Fense SC. Brush or spray the suspension evenly on wood surfaces to treat small areas. Use a coarse spray to treat large or overhead areas of homes, apartment buildings, etc., and thoroughly cover the area. Before spraying, cover all surfaces below the treatment area with plastic sheeting or other material. After spraying, dispose of the plastic sheeting or other material in the trash. Allow surfaces in the treated area to dry completely before coming into contact.

**Restrictions:** Do not apply D-Fense SC until the location of heating or air conditioning ducts, vents, water and sewer lines and electrical conduits are identified. Once known, applications may be made around these structures, however, be careful to avoid contamination of these structures and airways.

**Foam Application:** To treat structural voids for the control of insect and arthropod pests in walls, under slabs or in other void areas, convert D-Fense SC to a foam by mixing the end-use dilution of D-Fense SC with the manufacturer's recommended volume of foaming agent. Use the rate as recommended for a suspension treatment converted to a foam to get the correct foam expansion ratios. Before treatment check to make sure that the foaming agent is compatible with D-Fense SC.

For control of **above-ground termites and wood-infesting beetles** in localized areas, apply a 0.06% suspension or sufficient volume of foam of D-Fense SC to voids and galleries in damaged wood and in spaces between wooden structural members and between the sill plate and foundation where wood is vulnerable. Applications may be made to inaccessible areas by drilling and then injecting the suspension or foam with a suitable directional injector into the damaged wood or wall voids. All treatment holes drilled in construction elements in commonly occupied areas of structures must be securely plugged.

To control **termite carton nests** in building voids and trees, inject a 0.06% suspension or foam using a pointed injection tool. Multiple injection points to varying depths may be necessary. For best results, remove carton nest material from building voids and trees when nests are found. Termite carton nests in trees may be injected with 0.06% suspension or foam using a pointed injection tool.

To control **exposed worker and winged reproductive forms of termites**, applications to attics, crawl spaces, unfinished basements, or man-made voids may be made with a coarse fan spray of 0.06% suspension. For control of **swarming or reproductive stages of termites**, apply a 0.06% suspension to the swarm or area on which they collect. D-Fense SC will kill **workers or winged reproductive forms** present at the time of treatment. These applications are supplemental only, and do not take the place of mechanical alteration, soil treatment or foundation treatment.

For control of **above-ground termites and carpenter ants** inside trees, utility poles, fencing and decking materials and similar structures, locate the infested area by drilling then inject 0.06% suspension or foam using an appropriate treatment tool with a splashback guard.

For protection of firewood from **carpenter ants and termites**, before stacking firewood, treat the soil underneath with a 0.06% suspension at 1 gallon per 8 square feet to prevent infestation. DO NOT treat firewood with this product.

For control of **carpenter ants** in houses and other structures, use a 0.06% suspension and apply as a general surface, spot, crack and crevice or wall void application using coarse spray or foam to thoroughly cover the treatment area. Make application around doors and windows and any other areas where carpenter ants may gain entrance. Apply as a spray or foam into cracks and crevices, and drill small holes into voids where ants or nests may be present. Do not apply more than 1 gallon of dilute suspension per 1000 square feet of treated surface.

For control of **tunneling carpenter ants** in soil, apply a 0.06% suspension as a drench or inject the suspension or foam at 8 to 12 inch intervals. Create a uniform vertical barrier at the edge of walls, driveways or other hard surfaces where ants are tunneling beneath the surfaces.

For control of **carpenter bees** in structures, apply a 0.06% suspension or sufficient volume of foam directly into gallery entrance holes. Leave the entrance holes open for 24 hours to make sure that returning adult bees are killed. If no activity is visible, use an appropriate sealant to seal the hole.

### **TURFGRASS APPLICATIONS**

D-Fense SC controls listed insects on turfgrasses and ornamental plants in outdoor areas such as athletic fields, recreational areas, residential landscapes, parks, and public and commercial sites. Make application when insects first appear ensuring uniform coverage.

Apply as a broadcast application using a minimum of 2 gallons of water per 1000 sq. ft. with a hydraulic boom-type sprayer or other suitable equipment for turfgrass pests. Follow the specified rates listed in the Application Rates for Turfgrass Sites table. Use higher volumes (4 to 10 gallons of water per 1000 sq. ft.) for areas of dense turfgrass and/or where turfgrass is mowed at greater heights. Control is achieved when the insecticide contacts the target pest. For best results on surface-feeding insects, do not irrigate or mow within 24 hours after application. For subsurface-feeding insects, apply 0.25 to 0.5 inch of water immediately after application. Do not allow people or pests into the treatment area until turfgrass has dried.

**Tank Mixing:** D-Fense SC may be tank-mixed with other pest control or fertilizer products. Observe all restrictions, precautions and limitations appearing on the tank-mix partner label. To check for compatibility with D-Fense SC, mix a small test sample of the products in the correct proportions with water in a quart jar. The use of silicone surfactants in tank mixtures with D-Fense SC may enhance the control of some insects.

**RESTRICTIONS:** In New York State, product may not be applied to turf within 100 feet of a coastal marsh or stream that drains directly into a coastal marsh. For control of turf insects in New York, a second application may be made after two weeks if target insect activity persists.

Application Rates For Turfgrass Sites			
Sites	Pests	Rates	Use Instructions
Athletic fields, recreational areas, lawns & grounds, residential areas, parks, public and commercial sites	Ants, armyworms, centipedes, chiggers, cockroaches, crickets, cutworms, fleas(adult), grasshoppers, ground beetles, Japanese beetles (adults), leafhoppers, mealybugs, pillbugs, scorpions, sod webworms, sowbugs, springtails, spiders, ticks	0.4 to 0.6 fl. oz./1000 sq. ft or 17.5 to 26 fl. oz./Acre or 0.06 to 0.08 lb. ai/A	Apply at first sign of pest presence. Apply as a broadcast spray in a minimum of 2 gallons of water per 1000 sq. ft.  For best control of surface feeders such as cutworms and webworms, do not water or mow for 24 hours after application. For subsurface-feeders, such as mole crickets, apply 0.25 to 0.5 inch of water immediately after application. The use of silicone surfactants in tank mixtures with D-Fense SC may enhance the control of some insects.
	Annual bluegrass weevil (adult), billbugs (adult), black turfgrass ataenius (adult), chinch bugs, mites*, mole crickets.	0.6 to 0.9 fl. oz./sq. ft. or 26 to 39 fl. oz./Acre or 0.08 to 0.13 lb. ai/A	

\*Suppression Only

#### LANDSCAPE ORNAMENTAL TREATMENTS

Use D-Fense SC to control the listed insects when applied as directed in the Application Rates for Ornamentals table below. Mix the D-Fense SC with the required amount of water and apply as a finished spray to upper and lower leaf surfaces to ensure thorough coverage, but not to the point of run-off. Make sure to apply sufficient product to wet the leaves, trunk and branches of ornamentals.

**Restrictions:** Similar formulations have been tested on many species of ornamental plants with good results, but if local use information in this product is not available, it is recommended to pre-spray a few plants to check for compatibility.

Application Rates for Ornamentals:			
Sites	Pests	Rates	Remarks
andscape ornamentals including trees, shrubs, evergreens and foliage plants	Adelgids, ants, aphids, azalea lace bugs, bagworms, boxelder bugs, cankerworms, cardamom thrips, cockroaches, crickets, elm leaf beetles, elm spanworms, European pine sawflies, fall webworms, flea beetles, flies, fungus gnats, grasshoppers, greenstriped mapleworm, Gypsy moth (larvae), imported willow leaf beetles, Japanese beetles (adults)*, June beetles (adults), lace bugs, leaf-feeding caterpillars, leafhoppers, leaf rollers, loopers, leaf skeletonizers, mealybugs, midges, mimosa webworms, mites**, orangestriped oakworms, pillbugs, pine shoot beetles, pine tip moths, pinyon spindlegall midges, plant bugs, redhumped caterpillar, red imported fire ants, sawfly larvae, sowbugs, spiders, springtails, spanworms, scale insects (crawlers), tent caterpillars, ticks, webworms, yellownecked caterpillar	4 to 8 oz./100 gallons of water	Apply at first sign of pest presence.  Mix Delta 4.74% SC with the required amount of water and apply as a finished spray to ensure thorough coverage of all plant surfaces, but not to the point of run-off.

\*Will provide anti-feedant properties on treated ornamentals against Japanese beetles.

\*\*Suppression only.

### PAINT ADDITIVE USE

D-Fense SC may be mixed with latex coatings and oil-based coatings such as stains, varnishes and sealers for use to kill crawling and flying insects when exposed to treated surfaces.

**Note:** To ensure product efficacy, do not prepare more than the amount of latex coating that can be applied within 3 hours of mixing. For oil-based coating, stains, varnish or sealers, the amount of coating formulated should not exceed the amount that can be applied within 6 hours.

**Restrictions:** Do not allow children or pets to enter the treated area until surfaces are dry.

**Mixing Instructions:** Add 1 2/3 fl. oz. to 1 gallon [8 1/3 fl. oz. to 5 gallons] of latex coating (water base), oil base coating, and stains or sealers. Mix well to insure proper dilution.

**How to Apply:** Apply treated coating with brush, roller, or conventional airless equipment.

### FOR INDOOR PEST CONTROL

D-Fense SC may be applied in and on residential and non-residential buildings and structures including residential kitchens and food/feed handling establishments. This product can be applied to non-food contact surfaces of walls, floors, ceilings, in and around cabinets, behind and beneath equipment and appliances, around floor drains, window and door frames and around plumbing, sinks and other possible pest harborage sites.

**Note:** D-Fense SC can be applied only as a crack and crevice or spot treatment indoors. Do not use for broadcast interior applications such as entire walls, ceilings, and floors.

Permitted areas of use include the food/feed and non-food/non-feed areas of:

Aircraft (cargo area only)	Installations Kitchens
Apartment buildings	Laboratories
Bakeries	Mausoleums
Bottling facilities	Meat, poultry and egg processing and packaging plants
Breweries Buses	Mobile and motor homes
Cafeterias Candy plants	Nursing homes Offices
Canneries	Railcars
Dairy product processing plants Food manufacturing plants Food processing plants	Restaurants Schools
Food service establishments Granaries and grain mills Hospitals	Ships and vessels
Hotels	Trailers
Houses	Trucks
Industrial buildings	Warehouses
	Wineries

#### **Restrictions:**

- Do not apply to classrooms when in use.
- Do not use in aircraft cabins.
- Do not apply this product in occupied patient rooms or in any rooms/areas while occupied by patients, the elderly or infirm.
- Do not apply to institutions including libraries, sports facilities, or in the immediate area when occupants are present.

**Pantry Pest Control:** To kill adult and accessible stages of insect pests: Spiders, ticks, cockroaches and ants. Make application to cupboards, shelving and storage areas. Remove all foodstuffs, all utensils, shelf paper and other objects before coating with this product. Allow all treated surfaces to dry and cover shelves with clean paper prior to replacing foodstuffs, utensils or other items. Any foodstuff accidentally contaminated with any coating solution should be discarded.

**Crawling Insect Pests (such as Spiders, Ticks, Cockroaches, Mosquitoes, Imported and , Southern Fire Ants, Leafcutter Ants and Silverfish):** Apply D-Fense SC to localized areas of walls, ceilings and other resting areas as a crack and crevice or spot treatment.

D-Fense SC may be used inside residential buildings, as well as in and around carports, garages, storage sheds, unoccupied horse stables and pet kennels.

**Pet Kennels:** For residual control of crawling and flying insects in and around these structures, apply as cracks and crevices or spot treatment. Optimal control results if facilities to be treated are clean, and coated surfaces are cleaned regularly (every 21 days). Apply only to areas of facility where animals are not present. Allow coating to dry before allowing re-entry of animals into treated areas. Do not apply to animal feed or watering equipment.

**Food/Feed Handling Establishments:** For control of all labeled pests, applications are permitted in food/feed and non-food/non-feed areas of food/feed handling and processing establishments as spot or crack and crevice treatment.

Food/Feed handling establishments are defined as places other than private residences in which exposed food/feed is held, processed, prepared or served. Included also are areas for receiving, storing, packing (canning, bottling, wrapping, boxing), preparing, edible waste storage and enclosed processing systems (mills, dairies, edible oils, syrups) of food/feed. Serving areas where food/feed is exposed and the facility is in operation are also considered food/feed areas.

**Non-Food/Non-Feed Areas:** Examples of non-food/non-feed areas include garbage rooms, lavatories, floor drains (to sewers), entries and vestibules, offices, locker rooms, machine rooms, boiler rooms, mop closets and storage (after packaging, canning or bottling). All areas that insects inhabit or through which insects may enter should be treated.

**Note:** Do not use this application method in the food/feed handling areas of the facility when the facility is in operation or foods/feeds are exposed. Do not apply directly to food/feed products. Cover or remove all food/feed processing and/or handling equipment during application. After application in food/feed processing plants, cafeterias and similar facilities wash all equipment, benches, shelving and other surfaces which food/feed will contact. Clean food/feed handling or processing equipment and thoroughly rinse with clean, fresh water. After application in bakeries, clean all food contact surfaces thoroughly with appropriate equipment.

**Spot or Crack and Crevice Applications:** Except in federally inspected meat and poultry plants, spot or crack and crevice applications may be made while the facility is in operation, provided exposed food is covered or removed from area being treated prior to application. Do not apply directly to food or food-handling surfaces. In the home, do not allow coating to contact food/feed surfaces. If it does, clean surfaces with soap and water.

## **FOR OUTDOOR PEST CONTROL**

### **For Commercial/Industrial Use Only**

Kills cockroaches in sewer manholes and related sanitary sites.

**Application Instructions:** To control cockroaches in manholes, sewers, sewer cleanouts, floor drains and underground utility vaults. Apply product on manhole walls. Product may be applied via coarse spray using conventional airless spray equipment. Persons applying product in manhole must comply with CLOSED ENTRY requirements of government agencies.

Apply treated latex coating with remote access application equipment.

**Residual Application:** Apply D-Fense SC to surfaces of buildings, porches, window frames, eaves, patios and garages, to control Spiders, Ticks, American and German Cockroaches, Silverfish, Imported and Southern Fire Ants and Leafcutter Ants.

**Note:** Do not apply to furniture, swing sets, or other outdoor playground articles.

## **CORRUGATED and CARDBOARD BOXES AND LINERS**

### **For Commercial/Industrial Use Only**

D-Fense SC provides residual protection to the outer surface of corrugated and cardboard (folding carton) boxes against insects that damage or feed on paper, corrugated or cardboard (folding carton).

**Mixing Instructions:** To protect the outer surface of the box from damage from insects, such as spiders, ticks, silverfish, cockroaches, ants and weevil, mix 2.1 fluid oz. D-Fense SC to coating for corrugated or cardboard (folding carton).

**Note:** This coating can only be applied to the outside of the corrugated or cardboard (folding carton) box or to corrugated or cardboard (folding carton) box liner that is to be used for the exterior portion of the corrugated or cardboard (folding carton) box.

**How to Apply:** Make application at a rate of one gallon of coating containing D-Fense SC to 6000 to 8000 square ft. of surface (include size press, rod, blade, air knife, offset press, gravure and flexography). DO NOT APPLY TO INNER SURFACE OF BOXES.

## STORAGE & DISPOSAL

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

**PESTICIDE STORAGE:** Mix as needed. Store in original container in a secured dry storage area. Avoid extremes in temperatures. Prevent cross-contamination with other pesticides and fertilizers. If the container is leaking and/or material is spilled, on floor or paved surfaces, absorb on sawdust or other commercially available absorbing material, sweep up and remove to chemical waste area for your disposal. Concentrate is stable at normal storage temperatures.

*OR*

*Avoid extremes in temperatures. Store in original container in a secured dry storage area.*

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

**CONTAINER DISPOSAL: Nonrefillable container.** Do not reuse or refill this container. Triple rinse (or equivalent) promptly after emptying. **Containers less than 5 gallons:** 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. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke. **Containers greater than 5 gallons:** 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. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**Refillable containers:** Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from the container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

*OR*

*If empty: Place in trash or offer for recycling if available.*

*If partly filled: Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.*

## IMPORTANT: READ BEFORE USE

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following conditions, disclaimer of warranties and limitations of liability.

**CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, because of manner of use and other factors beyond Control Solutions, Inc.'s control, it is impossible for Control Solutions, Inc. to eliminate all risks associated with the use of this product. As a result, crop injury or ineffectiveness is always possible. All such risks shall be assumed by the user or buyer.

**DISCLAIMER OF WARRANTIES:** To the extent consistent with applicable law, CONTROL SOLUTIONS, INC. MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, THAT EXTEND BEYOND THE STATEMENTS MADE ON THIS LABEL. No agent of Control Solutions, Inc. is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, Control Solutions, Inc. disclaims any liability whatsoever for special, incidental or consequential damages resulting from the use or handling of this product.

**LIMITATIONS OF LIABILITY:** To the extent consistent with applicable law, THE EXCLUSIVE REMEDY OF THE USER OR BUYER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, SHALL NOT EXCEED THE PURCHASE PRICE PAID, OR AT CONTROL SOLUTIONS, INC.'S ELECTION, THE REPLACEMENT OF PRODUCT.

EPA Reg. No.: 53883-276

EPA Est. No. : XXXXX-XX-XXX

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



# SAFETY DATA SHEET

## D-Fense SC

### 1. IDENTIFICATION

Product name: **D-Fense SC**  
Product type: Insecticide  
EPA Registration No.: 53883-276  
Chemical name of active ingredient(s): **Deltamethrin**: [(S)-alpha-Cyano-3-phenoxybenzyl (1R)-cis-3-(2,2-dibromovinyl)-2,2-dimethylcyclopropanecarboxylate]  
Manufacturer/Registrant: Control Solutions, Inc.  
5903 Genoa-Red Bluff  
Pasadena, TX 77507  
For fire, spill, and/or leak emergencies, contact Chemtrec: Phone: 1-800-424-9300  
For medical emergencies and health and safety inquiries, contact Safety Call: Phone: 1-866-897-8050  
Poison Control Center Phone: 1-800-222-1222

### 2. HAZARDS IDENTIFICATIONS

#### OSHA HCS CLASSIFICATION (29 CFR 1910.1200)

##### Acute Toxicity:

Exposure Route	Acute oral	Acute dermal	Acute inhalation	Eye irritation	Skin irritation	Skin Sensitization
Category	NC	NC	4	NC	NC	NC

NC: Not classified

**SIGNAL WORD:** Warning

##### HAZARD STATEMENT:

- Harmful in inhaled
- Toxic to aquatic organisms,

##### PICTOGRAM:



##### PRECAUTIONARY STATEMENTS:

- Avoid breathing vapors/spray. Use only in a well-ventilated area. If inhaled: Remove victim to fresh air and keep comfortable for breathing. Call a poison center if you feel unwell.

**PHYSICAL CHEMICAL HAZARDS:** Do not use water-based sprays of Delta 4.75% SC in conduits, motor housings, junction boxes, switch boxes, or other electrical equipment because of possible shock hazard.

Contact Chemtrec for emergency medical treatment at 1- 800-424-9300.

**STORAGE AND DISPOSAL:** See Section 7 and 13.

**OTHER HAZARDS:** See Section 11 and 12.

# SAFETY DATA SHEET

## D-Fense SC

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

COMMON NAME	CAS NO.	%	OSHA PEL	ACGIH TLV	OTHER	NTP/IARC/OSHA (Carcinogen)
Deltamethrin	52918-63-5	4.75	NE	NE	NA	IARC – 3*
Silicon Dioxide (Crystalline Free)	112945-52-5	2	10mg/m <sup>3</sup> (nuisance dust)	10mg/m <sup>3</sup> (total dust)	NA	NA
Xanthan Gum	11138-66-2	0.5–0.3	15mg/m <sup>3</sup> (total dust) (8h TWA) 5mg/m <sup>3</sup> (respirable) (8h TWA)	NE	NE	NA
Propylene Glycol	57-55-6	2	NE	NE	10 mg/m <sup>3</sup> **	NA

NE= Not established; NA= Not applicable

\* IARC Group 3: The agent (mixture or exposure circumstance) is unclassifiable as to carcinogenicity to humans.

\*\* WEEL: Workplace Environmental Exposure Levels

### 4. FIRST AID MEASURES

FIRST AID	
IF INHALED:	<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 by mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for 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 SafetyCall® (866) 897-8050 for emergency medical treatment information.	

### 5. FIRE FIGHTING MEASURES

**FLASH POINT:** NA

**FLAMMABLE LIMITS:** NA

**EXTINGUISHING MEDIA:** Water fog, CO<sub>2</sub>, foam, dry chemical.

**UNUSUAL FIRE & EXPLOSION HAZARDS:** Pesticide fires have potential to emit hazardous decomposition products.

**HAZARDOUS DECOMPOSITION PRODUCTS:** May release irritating and toxic gases due to thermal decomposition. Products of combustion include oxides of carbon and nitrogen.

**FIRE-FIGHTING PROCEDURES:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH approved (or equivalent) and full protective gear. Keep upwind. Isolate hazard area. Avoid inhalation of smoke and fumes. Use water or foam to reduce fumes. Do not touch spilled material. If possible, move containers from area. Extinguish only if flow can be stopped. Use flooding amounts of water as a fog. Cool containers with flooding amounts of water from as far a distance as possible. Avoid breathing vapors.

### 6. ACCIDENTAL RELEASE MEASURES

**SPILL CLEANUP:** In case of spill on floor or paved surfaces, sweep up and remove to chemical waste storage area until proper disposal can be made. Rinse contaminated material with water and absorb with clay granules or universal absorbent pads. Dispose of with chemical waste.

# SAFETY DATA SHEET

## D-Fense SC

**CONTAINMENT:** Do not discharge waste into municipal wastewater or public storm drains. Eliminate runoff as much as possible.

### 7. HANDLING AND STORAGE

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

**PRECAUTIONS TO BE TAKEN IN HANDLING:** Avoid breathing vapors and spray mist. Wash hands thoroughly with soap after handling pesticides and before eating, drinking, or smoking. Remove and wash contaminated clothing before re-use.

**PRECAUTIONS TO BE TAKEN IN STORAGE:** Mix as needed. Store in original container in a secured dry storage area. Avoid extremes in temperatures. Prevent cross-contamination with other pesticides and fertilizers. If the container is leaking and/or material is spilled, on floor or paved surfaces, absorbed on sawdust or other commercially available absorbing material, sweep up and remove to chemical waste area for your disposal. Concentrate is stable at normal storage temperatures.

**STORAGE TEMPERATURE (MIN/MAX):** Normal ambient temperatures.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, PACKAGING AND USE OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

**EYE PROTECTION:** Protective eyewear or chemical safety glasses

**SKIN PROTECTION:** Long-sleeve shirt, long pants, shoes plus socks.

**HAND PROTECTION:** Chemical-resistant gloves.

**RESPIRATOR REQUIREMENTS:** None required. Use NIOSH approved air purifying respirator or filtering face piece with N or P class filter when working in non-ventilated areas.

**ADDITIONAL PROTECTIVE MEASURES:**

Eyre wash facility and safety shower should be available. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**USER SAFETY RECOMMENDATIONS:**

**Users Should:**

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

**EXPOSURE LIMITS:** Refer to Section 3.

**ENGINEERING CONTROLS:** Use only in adequately ventilated areas.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE:** White liquid

**ODOR:** Odorless

**ODOR THRESHOLD:** Not available

**pH:** 6.0

**FLASH POINT:** Not available

# SAFETY DATA SHEET

## D-Fense SC

**DENSITY:** 1.04 g/mL@20°C

**WATER SOLUBILITY:** Not available

**VISCOSITY:** 5,000 cps @ 6 rpm; 3,000 cps @ 12 rpm

**FLAMMABILITY (Solid, Gas):** Not applicable

**UPPER/LOWER FLAMMABILITY/EXPLOSIVE LIMITS:** Not available

**AUTO-IGNITION TEMPERATURE:** Not available

**EXPLODABILITY:** Not applicable

**SOLUBILITY:** Not available

**PARTITION COEFFICIENT (n-OCTANOL/WATER):** Not available

**VAPOR PRESSURE:** Not available

**VAPOR DENSITY:** Not available

**MELTING POINT/FREEZING POINT:** Not applicable

**BOILING POINT:** Not available

**EVAPORATION RATE:** Not available

**DECOMPOSITION TEMPERATURE:** Not available

### 10. STABILITY AND REACTIVITY

**STABILITY:** Stable under normal conditions.

**CONDITIONS TO AVOID:** Avoid exposure to extreme temperatures.

**HAZARDOUS DECOMPOSITION PRODUCTS:** May release irritating and toxic gases due to thermal decomposition. Products of combustion include oxides of carbon and nitrogen.

**HAZARDOUS POLYMERIZATION:** Will not occur.

### 11. TOXICOLOGICAL INFORMATION

**ACUTE TOXICITY/IRRITATION STUDIES:** (Data from a similar product)

Acute Oral LD<sub>50</sub> (Rat): > 15,000 mg/kg

Acute Dermal LD<sub>50</sub> (Rabbit): > 10,000 mg/kg

Acute Inhalation LC<sub>50</sub> (Rat): > 1.02 mg/L/4-hr (in the liquid aerosol form)

Eye Irritation: Minimally irritating

Skin Irritation: Slightly irritating

Dermal Sensitization: Negative

**ROUTES OF EXPOSURE:** Inhalation, Ingestion, Eye and Skin contact.

**POTENTIAL HEALTH EFFECTS:**

**SKIN CONTACT:** May be harmful if absorbed through skin. May cause a transient, localized parathesia, characterized by tingling, burning or numbness sensation in some individuals.

**EYE CONTACT:** Non-irritating.

**INHALATION:** Harmful if inhaled.

**OTHER TOXICOLOGICAL INFORMATION:** (Based on Deltamethrin Technical)

**CHRONIC TOXICITY/CARCINOGENICITY:** General neurological symptoms were exhibited in studies with rats, mice and dogs. These symptoms included unsteadiness, abnormal gait, tremors and liquid feces. No histopathologic findings were observed except some signs of slight hepatotoxicity in mice. No Observable Effect Levels hepatotoxicity in mice. No Observable Effect Levels (NOEL's) were 1 mg/kg/day in the 2 year rat and dog studies. The NOEL for the 2-year mouse study was approximately 12 mg/kg/day. Deltamethrin was not carcinogenic in rats or mice.

**NEUROTOXICITY:** Deltamethrin does not inhibit acetylcholinesterase. Neurobehavioral effects including unsteadiness, excessive salivation, vomiting, liquid feces, uncoordinated movement,

# SAFETY DATA SHEET

## D-Fense SC

tremors, spasmodic convulsions which are typically related to Central Nervous System (CNS) stimulation, were observed in some studies, The NOEL for these studies was 1 mg/kg/day or higher.

**REPRODUCTIVE/DEVELOPMENTAL:** No developmental effects were observed in studies with rats or rabbits in the absence of maternal toxicity. The developmental NOEL for the rat study was 3.3 mg/kg/day while the developmental NOEL for rabbits was 25 mg/kg/day. Reproduction studies with rats produced clinical signs, reduced body weight gain and mortality in parents and offspring at very high dosages. The NOEL for the parents and offspring was 80 ppm or approximately 4 to 12 mg/kg/day for adults and 18 to 44 mg/kg/day for offspring.

**MUTAGENICITY:** No evidence of genotoxicity was observed in a battery of in vitro and in vivo studies.

**CARCINOGENICITY:** Deltamethrin was not carcinogenic in lifetime feeding studies in rats and mice.

Propylene Glycol - In rare cases, repeated or prolonged exposure to Propylene Glycol may cause central nervous system effects.

### 12. ECOLOGICAL INFORMATION

**ENVIRONMENTAL HAZARDS:** This pesticide is extremely toxic to fish and aquatic invertebrates. 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 2 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.

The pesticide is highly toxic to bees exposed to direct treatment. Do not apply or allow it to drift to crops or weeds on which bees are actively foraging.

**ECOTOXICITY INFORMATION:** (Based on Deltamethrin Technical)

#### AVIAN TOXICITY:

Bobwhite Quail (LD<sub>50</sub>): > 2250 mg/kg

Bobwhite Quail (dietary LC<sub>50</sub>): > 5620 ppm

Mallard Duck (dietary LC<sub>50</sub>): > 8039 ppm

#### AQUATIC TOXICITY:

Rainbow Trout (96-Hour LC<sub>50</sub>): 0.26 ppb

Bluegill Sunfish (96-Hour LC<sub>50</sub>): 0.17 ppb

Sheepshead Minnow (96-Hour LC<sub>50</sub>): 0.48ppb

Chronic Toxicity-Fathead Minnow: MATC = 24 ppt

Chronic Daphnia Toxicity: MATC =6.0 ppt

**ENVIRONMENTAL FATE:** The major routes of dissipation are soil binding and soil microbial degradation. Although soil binding is strong, it is not immediate. It appears that spray drift is the only significant route of exposure to aquatic organism. However, deltamethrin's strong binding capacity to slime, plants, sediment, etc., might rapidly prevent the availability of deltamethrin for bioconcentration in aquatic systems. Additionally, its insolubility in water will be a factor in limiting its bioconcentration as well. Deltamethrin hydrolyzes under alkaline conditions. Leaching studies indicate that Deltamethrin is immobile.

Water Solubility: <0.20 mg/l @ 25°C

Hydrolytic Half-Life: 2.28-2.70 days @ pH 9.0

Photolytic Half-Life: 64-86 days (water); 9 days (soil)

Soil Half-Life: 14-40 days (cropped plots); 37-69 days (bare ground) in field dissipation studies

Bioconcentration Factor (BCF in bluegill sunfish): 189-3630x

# SAFETY DATA SHEET

## D-Fense SC

### 13. DISPOSAL CONSIDERATIONS

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Do not contaminate water, food, or feed by storage or disposal. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. Dispose of excess or waste pesticide by use according to label directions, or contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**CONTAINER DISPOSAL:** Dispose of product containers, waste containers, and residues according to label instructions and local, state, and federal health and environmental regulations.

### 14. TRANSPORT INFORMATION

#### DOT CLASSIFICATION:

Not regulated

#### INTERNATIONAL TRANSPORTATION:

**IMO (vessel):** UN3082, Environmentally Hazardous substances, liquid, n.o.s. (Deltamethrin), 9, PG III, Marine Pollutant

**IATA (air):** UN3082, Environmentally Hazardous substances, liquid, n.o.s. (Deltamethrin), 9, PG III

### 15. REGULATORY INFORMATION

#### FIFRA INFORMATION:

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information for safety data sheet, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

**CAUTION** Harmful if inhaled. Avoid breathing vapor or spray mist. Contact with product may result in transient tingling and reddening of the skin. Remove contaminated clothing and wash before reuse.

#### SARA TITLE III CLASSIFICATION:

Section 302: Not applicable.

Section 311/312: Acute health hazard (immediate)

Chronic health hazard (delayed)

Section 313: Not applicable

**CERCLA RQ:** Not applicable

**RCRA CLASSIFICATION:** Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

**TSCA STATUS:** The ingredients of this product are listed on the TSCA inventory or are exempt.

**CA PROPOSITION 65:** Not applicable

**STATE RIGHT-TO-KNOW:** Propylene Glycol (CAS No. 57-55-6): MN

# **SAFETY DATA SHEET**

## **D-Fense SC**

### **16. OTHER INFORMATION**

<b>HAZARD RATINGS</b>	<b>NFPA</b>	<b>HMIS</b>	
<b>HEALTH:</b>	2	1	0 MINIMAL
<b>FLAMMABILITY:</b>	1	0	1 SLIGHT
<b>REACTIVITY:</b>	0	0	2 MODERATE
			3 HIGH
			4 SEVERE

**SDS DATE:** 6-4-2015. Supersedes version dated 4-1-2011. Changes made to all sections.

The information and recommendations contained herein are based upon data believed to be correct. However, no warranty of any kind, expressed or implied, is made with respect to the information contained herein.