

100-1437

7/20/2012

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D C 20460



OFFICE OF
CHEMICAL SAFETY AND
POLLUTION PREVENTION

July 20 2012

Thomas J Parshley
Syngenta Crop Protection Inc
P O Box 18300
Greensboro NC 27419

Dear Mr Parshley

Subject Amended label to revise directions for use in food handling establishments
Product Name Tandem™
EPA Registration No 100 1437
EPA Decision No 465936

The labeling referred to above submitted in connection with registration under the Federal Insecticide Fungicide and Rodenticide Act is acceptable with the following comment

- On page 5 under the Precautions section delete the statement Use of Derby in food/feed areas of food handling establishments must be restricted to structural voids which eliminate exposure to food handling surfaces This statement appears to have been inadvertently included and is not required

A stamped copy of the label is enclosed for your records Please submit two copies of your final printed labeling before you release the product for shipment Your release for shipment of the product constitutes acceptance of these conditions If these conditions are not complied with the registration will be subject to cancellation in accordance with FIFRA section 6(e) If you have any questions please contact Julie Chao at (703) 308 8735 or chao.julie@epa.gov

Regards

A handwritten signature in black ink that reads "Venus Eagle".

Venus Eagle Product Manager (01)
Insecticide Rodenticide Branch
Registration Division (7505P)

Enclosure

(Booklet)

GROUP 3A 4A INSECTICIDES

TANDEM™

Insecticide

For use in, on and around buildings and structures for the control of listed pests, including on lawns, ornamental trees, and shrubs around residential, institutional, public, commercial, and industrial buildings, and in parks, recreational areas, and athletic fields

In the State of New York, this product may only be applied for indoor uses

Active Ingredients	
Thiamethoxam (CAS No 153719 23 4)	11.6%
Lambda cyhalothrin ¹ (CAS No 91465 08 6)	3.5%
Other Ingredients	84.9%
Total	100.0%

¹Microencapsulated

KEEP OUT OF REACH OF CHILDREN

CAUTION/PRECAUCION

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)

See additional precautionary statements and directions for use in booklet

EPA Reg No 100 1437
EPA Est XXXX

Product of XXXX
Formulated in the USA

SCP 1437-M(draft food handling)

Net Contents

ACCEPTED
With COMMENTS
In EPA Letter Dated
JUL 20 2012
 Under the Federal Insecticide Fungicide
 and Rodenticide Act As amended for the
 pesticide Registered under EPA Reg No
 100-1437

FIRST AID	
If swallowed	Call a poison control center or doctor immediately for treatment advice Have person sip a glass of water if able to swallow Do not induce vomiting unless told to do so by the poison control center or doctor Do not give anything by mouth to an unconscious person
If on skin or clothing	Take off contaminated clothing Rinse skin immediately with plenty of water for 15 20 minutes Call a poison control center or doctor for treatment advice
If inhaled	Move person to fresh air If person is not breathing call 911 or an ambulance then give artificial respiration preferably by mouth to mouth if possible Call a poison control center or doctor for further treatment advice
Have the product container or label with you when calling a poison control center or doctor or going for treatment	
HOT LINE NUMBER For 24 Hour Medical Emergency Assistance (Human or Animal) Or Chemical Emergency Assistance (Spill Leak Fire or Accident) Call 1 800 888 8372	

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION/PRECAUCION

Harmful if swallowed absorbed through skin or inhaled Avoid breathing vapors Avoid contact with skin or clothing Wash thoroughly with soap and water after handling and before eating drinking chewing gum using tobacco or using the toilet Remove and wash contaminated clothing before reuse

Environmental Hazards

This product is toxic to wildlife highly toxic to aquatic invertebrates and extremely toxic to fish 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 apply directly to water or to areas where surface water is present or o intertidal areas below the mean high water mark 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 ensure that wind or rain does not blow or wash pesticide off the

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treatment area Rinsing application equipment over the treated area will help avoid runoff to water bodies or drainage systems Do not contaminate water when cleaning equipment or disposing of equipment wash water Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas Apply this product only as specified on this label When making applications care should be used to avoid household pets particularly fish and reptile pets

This product is highly toxic to bees exposed to direct treatment or residues on blooming plants

• **Surface Water Advisory**

This product may contaminate water through drift of spray in wind This product has a high potential for runoff for several months or more after application Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product A level well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds streams and springs will reduce the potential for contamination of water from rainfall runoff (See manual at the following internet address [http //www wsi nrcs usda gov/products/W2Q/pest/core4.html](http://www.wsi.nrcs.usda.gov/products/W2Q/pest/core4.html))

Runoff of this product will be reduced by avoiding applications when rainfall is forecast to occur within 48 hours

• **Ground Water Advisory**

Thiamethoxam has properties and characteristics associated with chemicals detected in ground water The use of this chemical in areas where soils are permeable particularly where the water table is shallow may result in ground water contamination

• **Spray Drift Advisory**

Do not allow this product to drift

Physical and Chemical Hazards

Do not use this product in or on electrical equipment due to the possibility of shock hazard from the water used in mixing this product

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use when used in accordance with directions under normal use conditions. To the extent permitted by applicable law, (1) this warranty does not extend to the use of this product contrary to label instructions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and (2) Buyer and User assume the risk of any such use. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.**

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product and Buyer and User accept it subject to the foregoing Conditions of Sale and Limitation of Warranty and of Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

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DIRECTIONS FOR USE

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

PRECAUTIONS

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

Use in all indoor permitted sites including food handling establishments must be restricted to areas which eliminate exposure to food handling surfaces and areas that are not easily accessible to occupants

Use of Tandem in food/feed areas of food handling establishments must be restricted to structural voids which eliminate exposure to food handling surfaces

Do not use this product with oil

Do not apply this product in any room being used as a living eating sleeping or recovery area by patients the elderly or infirm when they are in the room

Do not apply to classrooms nurseries or daycare facilities when in use

Do not apply to institutions (including libraries sports facilities etc) when occupants are present in the immediate treatment area

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

Do not use water based sprays of Tandem in conduits motor housings junction boxes switch boxes or other electrical equipment because of possible shock hazard

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 or the undersides of eaves (i.e. soffits) 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

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Do not water treated area to the point of runoff

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 habitats can occur Do not allow the product to enter any drain during or after application

Surface Staining Tandem **has not stained** or caused damage to painted or varnished surfaces plastics fabrics tile siding or other surfaces where water applied alone causes no damage However treat a small area and allow it to dry to determine whether staining will occur To avoid contamination from previous treatments thoroughly wash out sprayer hoses and screens with water and detergent before using Tandem

RESISTANCE MANAGEMENT

GROUP 3A 4A INSECTICIDES

Some insect pests are known to develop resistance to products after repeated use Because resistance development cannot be predicted the use of this product should conform to sound resistance management strategies established for the crop and use area SYNGENTA encourages responsible product stewardship to ensure effective long term control of the insects on the label

Tandem contains a Group 3A insecticide (lambda cyhalothrin belonging to the pyrethroid class of chemistry) and a Group 4A insecticide (thiamethoxam belonging to the neonicotinoid class of chemistry) Insect biotypes with acquired or inherent resistance to Group 3A or Group 4A insecticides may eventually dominate the insect population if Group 3A or Group 4A insecticides are used repeatedly as the predominant method of control for targeted species This may result in partial or total loss of control of those species by Tandem or other Group 3A or Group 4A insecticides

If resistance to this product develops in your area this product or other products with a similar mode of action may not provide adequate control If poor performance cannot be attributed to improper application or extreme weather conditions a resistant strain of insect may be present If you experience difficulty with control and resistance is a reasonable cause immediately consult your local company representative or extension specialist for the best alternative method of control for your area

In order to maintain susceptibility to these classes of chemistry

- Avoid using Group 3A and/or Group 4A insecticides exclusively for season long control of insect species with more than one generation per crop season
- For insect species with successive or overlapping generations apply Tandem or other Group 3A and/or Group 4A insecticides using a treatment window approach A treatment window is a period of time as defined by the stage of crop development and/or the biology of the pests of concern Within the treatment

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window depending on the length of residual activity there may either be single or consecutive applications of the Group 3A and/or Group 4A insecticides Do not exceed the maximum Tandem allowed per year

- Following a treatment window of Group 3A and/or Group 4A insecticides rotate to a treatment window of effective products with a different mode of action before making additional applications of Group 3A and/or Group 4A insecticides
- A treatment window rotation along with other IPM practices for the crop and use area is considered an effective strategy for preventing or delaying a pest's ability to develop resistance to these classes of chemistry
- If resistance is suspected do not reapply Tandem or other Group 3A or Group 4A insecticides

Other Insect Resistance Management (IRM) practices include

- Incorporating IPM techniques into your insect control program
- Monitoring treated insect populations for loss of field efficacy
- Using tank mixtures or premixes with insecticides from a different target site of action group as long as the involved products are all registered for the same crop and effective rates are applied

For additional information on Insect Resistance Management

- Contact your local extension specialist and/or product manufacturer for additional insect resistance management recommendations
- Visit the Insecticide Resistance Action Committee (IRAC) on the web at <http://www.irac-online.org/>

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INFORMATION STRUCTURAL AND PERIMETER PEST CONTROL

USE SITES

Use Tandem as a perimeter crack and crevice and/or spot treatment in and around structures or modes of transportation Treatment to soil or vegetation around structures and building foundations (up to a maximum height of 3 feet) may be made as a surface treatment Permitted areas of use include the following buildings structures and modes of transport

- | | | |
|---|--------------------------------|----------------------|
| • aircraft (cargo and other non cabin areas only) | • furniture | • offices |
| • apartment buildings | • garages | • patios |
| • boiler rooms | • garbage rooms | • pet kennels |
| • buses | • greenhouses (non commercial) | • porches |
| • closets | • hospitals | • railcars |
| • correctional facilities | • hotels and motels | • restaurants |
| • decks | • houses | • storage rooms |
| • dumpsters | • industrial buildings | • schools |
| • entries | • laboratories | • stores |
| • factories | • landscape vegetation | • trailers |
| • fencing | • locker rooms | • trees |
| • food manufacturing processing and serving establishments such as bakeries breweries canneries granaries grain mills etc | • machine rooms | • trucks |
| | • mausoleums | • utility passages |
| | • mobile homes | • vessels vestibules |
| | • mop closets | • warehouses |
| | • mulch | • wineries |
| | • nursing homes | • yards |

Mixing Instructions

Tandem is intended for dilution with water for application using hand held or power operated application equipment as a coarse spray for crack and crevice spot and surface treatments Application equipment that delivers low volume treatments may also be used A surface treatment of Tandem may be applied by using a paintbrush or other porous applicator attached to a handle Fill applicator tank with the desired volume of water and add Tandem Close and agitate before use in order to ensure proper mixing Re agitate applicator tank before use if application is interrupted Mix only amount of treatment volume as required

Tank Mixing

Tandem may be tank mixed with other currently registered pesticides unless expressly prohibited by the product label To ensure compatibility conduct a small volume mixing test with the other products If mixed with sanitizers add Tandem to the tank first If other chemicals are added to the applicator tank add Tandem last Fill tank to desired volume and re agitate while making applications

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Observe all restrictions and precautions which appear on the labels of any tank mix products

Foam Applications

Tandem may be converted to foam and the foam used to treat structural voids to control or prevent pests including ants wasps wood destroying insects or other arthropods harboring in walls under slabs or in other void areas Mix end use dilution with manufacturer s recommended volume of foaming agent For applications inside wall voids expansion ratios of 15 1 or drier are suggested

Fixed In Wall Delivery Systems

Closed in wall insecticidal delivery systems such as permanently installed piping or flexible tubing may also be used to deliver diluted product to inaccessible areas Generally about one ounce of finished liquid product is needed per 35 40 ft of tubing (based on 1/8 diameter tubes) For these systems use 0.065% 0.13% dilution rates as listed in the **General Household Pests** table Prepare the finished product at the appropriate dilution then inject into system as recommended by delivery system manufacturer

Spot Treatments

Spot treatments may be made by spraying misting painting or otherwise applying to surfaces including a contiguous area no larger than 2 feet by 2 feet For areas limited to spot or crack and crevice treatments multiple spot treatments can be made to surfaces as long as 20% of the total target area is not exceeded

GENERAL HOUSEHOLD PESTS

Pests Controlled	Concentration of Active Ingredient in Final Dilution	Rates for Mixing
Ants ¹ Beetles (including Multicolored Asian Lady Beetle) Boxelder Bugs Carpenter Bees Carpet Beetles Centipedes Cigarette Beetles Clover Mites Cluster Flies Cockroaches Confused Flour Beetles Crickets Earwigs Firebrats Fleas ² Flies Grasshoppers Lesser Grain Borers Millipedes Mosquitoes Red Flour Beetles Rice Weevils Saw toothed Grain Beetles Silverfish Sowbugs Spiders Springtails Stink Bugs (including Brown Marmorated Stink Bug and Kudzu Stink Bug) Ticks Wasps Hornets and Yellow Jackets ³	0.065%–0.13%	To mix 0.065% concentration • Use 16 ml (0.55 fl oz) Tandem/gal of water To mix 0.13% concentration • Use 32 ml (1.1 fl oz) Tandem/gal of water

¹ For treatment of fire ant mounds see Lawns/Turfgrass Section of this label

² For outdoor use only use 0.13% rate

³ See **Information Control of Yellow Jackets Hornets and Wasps (Localized Treatment)** section for specific instructions

INFORMATION INDOOR PESTS

Ants (Including Carpenter Ants and Nuisance Ants)

Apply as a spot crack and crevice and/or void treatment to ant trails around doors and windows and other places where ants may be found. Indoors 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, and in cracks and crevices. For best results locate and treat nests. Outdoors apply as a crack and crevice spot or perimeter barrier treatment also see **Information Outdoor Pests**

Crawling Insects (Beetles, Clover Mites, Cockroaches, Crickets, Earwigs, Firebrats, Silverfish, and Spiders)

Apply as a spot crack and crevice and/or void treatment 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 or other household items such as furniture, sinks, furnaces, and stoves, and to the underside of shelves, drawers and similar areas. Pay particular attention to cracks and crevices.

Flying Insects (Flies, Mosquitoes, and Wasps)

Tandem may be applied as a spot or crack and crevice treatment directly into cracks and crevices or other non exposure areas as a low pressure spray using equipment capable of delivering a pin stream of insecticide inside residential buildings (in attics, crawl spaces, and other non living spaces) as well as in and around carports, garages and storage sheds, also see **Information Outdoor Pests**. Do not make surface applications to living spaces. For wasps, hornets, and yellow jackets see section on **Control of Yellow Jackets, Hornets, and Wasps**

Occasional Invaders (Boxelder Bugs, Centipedes, Millipedes, Multicolored Asian Lady Beetles, Pillbugs, Scorpions, Sowbugs, and Stink Bugs)

Apply as a spot crack and crevice and/or void treatment around doors and windows, baseboards and other places where these pests may be found or where they may enter premises. Apply outdoor treatments to prevent infestation as described below, also see **Information Outdoor Pests – Perimeter Treatments around Structures**

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 as a spot or crack and crevice treatment 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.

Food/Feed Handling Establishment Use

~~Food/feed areas include areas for receiving, storage, packing (canning, bottling, wrapping, boxing), preparing foods, edible waste storage, and enclosed processing systems (mills, dairies, edible oils, syrups). Serving areas are also considered a food/feed area when food is exposed and facility is in operation.~~

~~**Application within food/feed areas of food/feed-handling establishments is limited to structural void treatments only. Do not apply Tandem to areas where food/feed utensils or processing surfaces may become contaminated. If insecticide contacts an exposed surface where food is handled, wash exposed surface with an effective cleaning compound followed by a potable water rinse prior to use.**~~

~~Apply Tandem as a finished foam directly into structural voids between different elements of construction (e.g., voids and hollow spaces in walls, floors, and ceilings, and around plumbing pipes, doors, and windows, cabinets, and closets). Target places where target pests may enter the structure.~~

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

~~Use as a crack and crevice, spot, or void treatment in and around both food and non-food 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, in openings leading to voids, and in hollow spaces in walls, equipment, and bases. Clean food contact surfaces and equipment with an effective cleaning compound and rinse with potable water before using.~~

~~Limit individual spot treatments to an area no larger than 20% of the treated surface. Individual spot treatments should not exceed 2 sq. ft. Take extreme care that the product is not introduced into the air. Do not contaminate food and food processing surfaces.~~

~~**Application within Food Serving Areas (facilities where foods are served, such as dining rooms)**~~

~~Apply as a crack and crevice, spot, or void treatment to selected surfaces such as under elements of construction and into cracks and crevices. Do not treat 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 from area being treated. Do not apply directly to food or allow applications to contaminate food.~~

Application of this product in the food areas and/or food serving areas of food handling establishments other than as a spot, crack and crevice, or void treatment is not permitted

INFORMATION OUTDOOR PESTS

For control of ants bees centipedes cockroaches crickets fleas flies millipedes mosquitoes scorpions sowbugs pillbugs stink bugs spiders ticks wasps and other similar perimeter arthropod pests Apply with either hand or power application equipment as a residual treatment around buildings and to surfaces of buildings porches screens window frames eaves patios garages refuse dumps and other similar areas where these insect pests are active When applying as a continuous band around structures limit treatment to a band up to 7 ft wide around the structure (or according to state regulations governing commercial pest control) and upwards along the foundation to 3 ft For vertical surfaces more than 3 ft above the foundation use spot or crack and crevice treatments e.g. around windows doors and roof overhangs

Ants

Apply Tandem as a spot crack and crevice pin stream or perimeter banded treatment to ant trails and potential entry points such as around doors or windows As a banded application apply according to instructions on perimeter treatments below

Tandem contains thiamethoxam a plant systemic insecticide which can reduce populations of plant feeding insects such as aphids mealybugs and whiteflies Control of these insects can reduce the amount of honeydew a food source for ants foraging in and around structures To reduce populations of honeydew producing insects apply Tandem at up to 0.13% as a foliar spray or directed treatment to soil at the base of the landscape plants When targeting landscape ornamental pests see directions for use in the **Application to Ornamentals** section

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 For best coverage to control ticks apply using a coarse fan spray to vegetation brush branches rock walls and other areas near habitation where ticks may harbor or frequent Do not apply to pasture or cropland and do not allow animals and people access to treated areas until the spray deposit has dried Applications can be made on a monthly basis beginning in the spring and can continue until frost to control both larvae and adult ticks Do not apply directly to pets

House Flies and Cluster Flies

Apply as a spray or low volume mist to outdoor surfaces of structures patios fences or other areas where flies are likely to collect or rest or to areas of structures that serve as entry points (doors windows under eaves) Applications to vertical surfaces above 3 feet from the foundation are limited to spot treatments Applications under eaves may be made as a surface spray

For cluster flies use spot treatments around entry points or fly resting areas of structural surfaces paying particular attention to south facing surfaces In winter and spring when flies become active and are emerging interior crack and crevice spot and void treatments can help reduce the infestation in areas such as attics crawl spaces or indoor non living spaces

Mosquitoes

For adult mosquito control apply as a structural perimeter spray or spot treatment to landscape plantings and turf around buildings and foundations under decks or to other areas that are likely to serve as adult mosquito resting areas Yards or other frequented areas enclosed by landscaping can benefit from a banded treatment to reduce invading adult mosquitoes by the treatment of perimeter vegetation Apply Tandem at specified rates at 2.5 gallons of water per 1,000 sq ft Low volume mist blowers may be used as well Application to vegetation away from structures may require additional state certifications e.g. in turf or ornamental categories Consult your state regulatory agency for requirements

Occasional Invaders (Beetles, Boxelder bugs, Centipedes, Earwigs, Grasshoppers, Stink bugs, etc.)

Apply to outdoor structural surfaces where insects are found and around likely entry points such as doors windows and utility penetrations Banded applications as described in the **Information Outdoor Pests Perimeter Treatments around Structures** section can provide additional protection against these pests entering the structure

INFORMATION: CONTROL OF YELLOW JACKETS, HORNETS, AND WASPS (LOCALIZED TREATMENT)

Use caution when treating nests of stinging insects as Tandem does not provide instant knockdown Protective equipment for the applicator may be required to reduce the risk of insect stings during application The use of an extension wand is recommended when applying the liquid or foam to nests to reduce the risk of being stung For best results treat nests in the evening when most insects will be present

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Rate Table for Perimeter Applications around Structures

Application Rate Fl oz (ml) of Tandem	Gal of Water ¹	Area of Coverage (sq ft)
0.55 fl oz (16 ml)	1–5 gal	800–1600 sq ft
1.1 fl oz (32 ml)	1–5 gal	800–1600 sq ft

¹Application volume may be greater than 5 gal /800–1600 sq ft if required under heavy vegetative or landscaping materials in order to obtain desired coverage

Examples of Dilutions for Structural Perimeter Applications

Application Volume (Gal of Solution/ 1 000 sq ft)	Application Rate (Fl oz (ml) of Tandem/ 1 000 sq ft)	Fl oz (ml) of Tandem to Dilute in Water According to Spray Tank Volumes		
		10 gal	25 gal	50 gal
1 gal /1 000 sq ft	0.55 fl oz (16 ml)	5.5 fl oz (163 ml)	13.8 fl oz (407 ml)	27.5 fl oz (813 ml)
	1.1 fl oz (32 ml)	11.0 fl oz (325 ml)	27.5 fl oz (813 ml)	55 fl oz (1627 ml)
2 gal /1 000 sq ft	0.55 fl oz (16ml)	2.8 fl oz (81 ml)	6.9 fl oz (203 ml)	13.8 fl oz (407 ml)
	1.1 fl oz (32 ml)	5.5 fl oz (163 ml)	13.8 fl oz (407 ml)	27.5 fl oz (813 ml)
5 gal /1 000 sq ft	0.55 fl oz (16 ml)	1.1 fl oz (33 ml)	2.8 fl oz (81 ml)	5.5 fl oz (163 ml)
	1.1 fl oz (32 ml)	2.2 fl oz (65 ml)	5.5 fl oz (163 ml)	11.0 fl oz (325 ml)

INFORMATION CONTROL OF WOOD DESTROYING INSECTS

Use Tandem to control the following wood destroying insects. For specific application instructions refer to label text.

Pests	Application Method	Finished Dilution (% active ingredient)	Comments
Drywood Termites	<i>Remedial Control</i>	0.13%	Re treat as needed
Carpenter Ants ¹	• Liquid or foam – Gallery treatment	To mix 0.13% concentration Use 32 ml (1.1 oz)	
Carpenter Bees	<i>Preventive treatment</i>	Tandem/gal of water	
Wood Destroying Beetles and Borers	• Wood Surface Spray		

¹ 0.065% to 0.13% rates may be used per instructions under **Control of Carpenter Ants** section

Control of Drywood Termites

When used as specified in this label Tandem provides effective remedial control of localized infestations of drywood termites including species of *Incisitermes*, *Cryptotermes* and *Marginitermes*. Knowledge of the biology and behavior of the drywood termite species involved, the locations, and the extent of the infestation(s) will help to ensure successful control.

Treatment requirements for drywood termite control may vary due to state and local regulations. For advice concerning current drywood termite control regulations under local conditions, consult your State structural pest control regulatory agency.

Directions for Remedial Control of Drywood Termites in Infested Wood

To control drywood termites in localized areas of infested wood in structures, apply 0.13% Tandem as a liquid or foam to voids and galleries in damaged wood, in spaces between wooden structural members, or between wood and foundations. Locate galleries by using visual signs (e.g., fresh fecal pellets or blistered wood), the presence of live termites, mechanical sounding techniques (tapping on the wood surface and listening for changes in sound to indicate changes in wood density), listening devices, motion detection devices, or other technologies that help pinpoint drywood termite activity.

Wood Injection Method

Drill small diameter holes of appropriate size for the injection tip or use a self-puncturing tip positioned to intersect termite galleries within infested wood. Drywood termite

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emergence or pellet kick out holes connect directly to galleries and are indicators of potential sites to drill and inject Tandem Care should be taken to avoid electrical wiring plumbing etc when drilling and injecting Do not drill or puncture completely through wood Spacing of the holes will depend on the distribution of insect activity and galleries Injection holes may be clustered in areas with insect activity as indicated by damage live insects or other indicators previously described Injection holes on opposite sides of large (4 x10 or larger) structural beams may be necessary to effectively penetrate galleries

Apply up to 50 ml (1.7 fl oz) of finished liquid solution of Tandem at each injection hole If using Tandem as a foam preparation inject a sufficient amount to fill galleries without allowing runoff

Re apply if insect activity within treated areas is detected 4 or more weeks following treatment For best results in treating galleries inject Tandem into new injection holes positioned between previous injection sites

Wood Surface Treatment

Surface applications may also be used to supplement spot treatment for drywood termites as a means to prevent re infestation by swarming adult termites Apply a 0.13% dilution as a surface spray or mist to exposed wood surfaces in areas not used as living spaces such as attics crawl spaces unfinished basements or structural voids

Control of Carpenter Ants

Apply to ant trails around doors and windows and other places where ants may be found Indoors 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 and in cracks and crevices For best results locate and treat nests Outdoors apply as a crack and crevice spot or banded treatment also see **Information Outdoor Pests**

Inside voids where ants or nests occur drill (or use existing opening) and inject spray or foam into the cavity Inside decking materials or other structural materials poles or trees infested with carpenter ants drill and inject spray or foam into cavities Apply up to 50 ml (1.7 fl oz) of finished liquid solution of Tandem at each injection hole If using Tandem as a foam preparation inject a sufficient amount to cover the area without allowing runoff

Control of Carpenter Bees (localized treatment)

Gallery Treatment

Apply a 0.13% dilution of Tandem into carpenter bee galleries as a spray mist or foam

application As a liquid apply up to 50 ml (1.7 fl. oz.) of finished solution of Tandem at each injection hole. If using Tandem as a foam preparation inject a sufficient amount to fill galleries without allowing runoff.

Wood Surface Treatment

Apply coarse spray as a spot treatment 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. Applications can be made on a monthly basis to maintain protection of treated areas.

Control of Wood Destroying Beetles and Borers

For control of wood destroying beetles or borers including old house borers, powderpost beetles, false powderpost beetles, death watch beetles, and ambrosia or bark beetles. Apply Tandem diluted to 0.13% as a spray, mist, or foam to galleries in structural voids and/or as wood surface treatments. For old house borers or other beetles that form large galleries, treat the gallery system by drilling and injecting product with sufficient volume to cover the galleries. For beetles or borers that do not form galleries which can be readily injected (e.g., powderpost beetles) apply product as a liquid, mist, or foam to exposed wooden surfaces in non-living space areas in crawlspaces, basements, and attics, to structural voids, to spaces between wood elements of a structure, or at joints between wood and foundations. Apply as a coarse liquid spray with low pressure (<25 psi) as a foam or mist application, or by brushing diluted product onto the surface. Applications should be made in sufficient volumes to coat the target surface, but less than the volume that creates runoff. Re-treat as needed to maintain protection. Allow treated surfaces to dry before contacting them.

INFORMATION: LAWNS/TURFGRASS AND ORNAMENTALS

Tandem contains two insecticides: thiamethoxam and lambda cyhalothrin. Thiamethoxam and lambda cyhalothrin provide long-lasting, broad-spectrum contact and systemic control of turf and ornamental plant insects.

Tandem may be used for applications to maintain 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. 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.

IMPORTANT Not for use on plants being grown for sale or other commercial use or for commercial seed production

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

Do not water the treated area to the point of runoff

Do not make applications during rain

Mixing Instructions (Turf and Ornamental Dilutions)

Tandem may be mixed with water and used in all types of standard application equipment. Fill applicator tank with $\frac{1}{2}$ to $\frac{3}{4}$ volume of water and add Tandem. Adjust water pH with a buffering agent if necessary to achieve a pH of 5.7. Slowly add Tandem to applicator tank water with maximum agitation. Fill the tank to the desired volume and continue to agitate while making applications. Close and shake or re-agitate applicator tank before use if application is interrupted. Make up only the amount of treatment volume required.

Tank Mixing (Turf and Ornamental Dilutions)

Tandem may be tank mixed with other currently registered pesticides unless expressly prohibited by the product label. To ensure compatibility, conduct a small volume mixing test with the other products. If other chemicals are added to the applicator tank, add Tandem 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.

APPLICATION TO TURFGRASS

Sites of Application Tandem may be used for applications to turfgrasses around residential, institutional, public, commercial and industrial buildings, parks, recreational areas, and athletic fields.

Broadcast Applications to Turfgrass Apply Tandem as a broadcast application to turfgrass for control of targeted pests. Use sufficient water volume (2-10 gal / 1,000 sq ft) to uniformly distribute Tandem over the area being treated and to adequately move the active ingredient into the canopy and thatch layers. Tandem is not phytotoxic to any major turfgrass species. Tandem can be applied to established turf or at seeding or during seed germination.

Tandem™

Application Timing Maintain adequate soil moisture before and after application for optimum control and healthy turfgrass growth. Excessively wet or dry conditions may impact the performance of Tandem against white grubs. Do not mow the turf until the treated area has been irrigated or rainfall has occurred to allow for maximum and uniform uptake into the turfgrass or soil. 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 32 fluid ounces of Tandem per acre per year.

KEEP CHILDREN AND PETS OFF TREATED AREAS FOLLOWING THE APPLICATION UNTIL SPRAY HAS DRIED

Pests	Dosage of Tandem
Annual bluegrass weevils ¹ Armyworms Black turfgrass ataenius (adults) Bluegrass billbug (adults and larvae) Chinch bugs ² Crickets Cutworms Fire Ants Hyperodes weevil (adults and larvae) Japanese beetles (adult) Mole Cricket (young adults and nymphs) ³ Sod webworms White grubs ⁴ <i>Aphodius</i> Asiatic Garden Beetle Black Turfgrass Ataenius European Chafer Green June Beetle Japanese Beetle May or June Beetle Northern Masked Chafer Oriental Beetle Southern Masked Chafer	Apply a single application of 28 fl oz per acre or Apply two applications of 14 fl oz per acre on a 3 to 5 week interval
Chiggers Grasshoppers	Apply 10.5 fl oz per acre on a 3 to 5 week interval

¹ **Annual Bluegrass Weevils and Billbugs** – Applications can be timed for the adult weevil as they move from their over wintering sites into turf. Applications made for adult weevils will also control larvae.

² **Chinch Bug** – Apply when insects are first observed. Repeat applications on a 3 to 5 week interval to obtain control.

³ **Mole Crickets** – Apply from first egg hatch to peak egg hatch. If the soil is dry, irrigate after application to move insecticides into the soil.

⁴ **White grubs** – Begin applications up to 45 days before the historical peak of adult flight to second instar grub of the species being targeted. For optimum control, treat from peak flight to peak egg hatch. Irrigate

to move Tandem into the root zone. Full season control of white grubs will be obtained with either a single 28 fl oz application or two 14 fl oz applications.

Apply to turf prior to the establishment of high insect pressure or significant turf damage.

Fire Ant Mound Treatment Treat individual mounds with a drench application using a watering can. Use 0.15 fluid ounces of Tandem per 2.5 gallons of water. Thoroughly soak each mound and a 3 ft diameter circle around each mound. Gently apply the mixture to avoid disturbing the mound. Disturbing the mound may cause the ants to migrate and reduce the effectiveness of the treatment. For best results, apply in early morning or late evening hours. Applications can be made on a monthly basis to maintain protection of treated areas.

Surface Insect Control (armyworm, cutworms, fleas, etc.) Apply Tandem at specified rates in 2.5 gallons 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 after application for optimum control of surface feeding insect pests.

Thatch Inhabiting Insect Control (chinch bugs, etc.) Apply Tandem at specified rates in 2-10 gallons of water per 1,000 sq ft. The use of a nonionic wetting agent penetrant or similar adjuvant is recommended. Irrigate after application with up to 1/2 inch of water to move the Tandem into the thatch layer. If irrigation is not available, then use high water application rates/volumes (>4 gal/1,000 sq ft) for optimum results.

For specific information about developmental stages of the target pest and optimal timing of applications, consult with your State Cooperative Extension Service.

APPLICATION TO ORNAMENTALS

Applications to Ornamentals Apply to ornamentals in 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).

Do not apply more than 32 fluid ounces of Tandem per acre per year.

Start application to ornamentals prior to the establishment of high insect pest populations. Make reapplications as necessary to keep pest populations under control using higher rates within the listed rate range as pest pressure increases.

Apply at 7 day intervals if retreatment is necessary. Limit more frequent treatments to spot treatments.

Good spray coverage is necessary to provide the most effective level of control. Spray uniformly to wet plant but not to the point of runoff or drip. Addition of a spreader sticker at specified rates may enhance the control of insects on certain species of ornamentals having waxy, hard to wet foliage.

Consult your state university or local Cooperative Extension Service office for specific pest control application timing in your area.

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.

Pre spray a selection of ornamental plants and observe them for 7-10 days prior to treating large areas if local use experience is unavailable. This is especially advisable if Tandem is being mixed with another product or ingredient besides water. See **Tank Mixing (Turf and Ornamental Dilutions)** instructions.

Scale Thoroughly cover the plant with Tandem spray including trunks, stems, twigs and foliage for control of scale insects.

Bagworm Apply Tandem when bagworm larvae begin to hatch. Spray directly on the larvae. Application is most effective when the larvae are young.

Ornamental, Non-Bearing Fruit and Nut Trees and Woody Shrubs

Tandem contains thiamethoxam which is a systemic insecticide that will be translocated upward into the plant from root uptake. Tandem must be placed in an area where roots can absorb the active ingredient. It may take 2-4 weeks for the active ingredient to move from the root zone to the area of the trees affected. If insect pests are already present and causing damage consider making a foliar application and then follow up with a soil application. For best results water in after application with enough water to move the insecticide into the root zone of the tree.

For trees and shrubs use 0.2 fluid ounces (6 ml) of Tandem per inch cumulative trunk diameter (DBH) of the plant(s) or per foot of shrub height (less than 6 ft tall).

STORAGE AND DISPOSAL

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

Pesticide Storage

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

Pesticide Disposal

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

Container Handling (less than 5 gallons)

Non-refillable container: Do not reuse or refill this container. Offer for recycling if available. Triple-rinse container (or equivalent) promptly after emptying. Triple-rinse as follows: Empty the remaining contents into application equipment or a mix tank. 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 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.

Container Handling (5 gallons or greater)

Refillable container: 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 person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the 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 if available or puncture and dispose of in a sanitary landfill, or by incineration.

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Tandem™

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For non emergency (e.g. current product information) call
Syngenta Crop Protection at 1 800 334 9481

Manufactured for
Syngenta Crop Protection LLC
P O Box 18300
Greensboro North Carolina 27419 8300

SCP 1437 M(draft food handling)

28/31

Tandem™

(Non detachable Container Label)

GROUP 3A 4A INSECTICIDES

TANDEM™

Insecticide

For use in 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 and in parks, recreational areas and athletic fields

In the State of New York this product may only be applied for indoor uses

Active Ingredients

Thiamethoxam (CAS No 153719 23 4)	11 6%
Lambda cyhalothrin ¹ (CAS No 91465 08 6)	3 5%
Other Ingredients	84 9%
Total	100 0%

¹Microencapsulated

KEEP OUT OF REACH OF CHILDREN

CAUTION/PRECAUCION

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)

See additional precautionary statements and directions for use in booklet

EPA Reg No 100 1437
EPA Est XXXX

Product of XXXX
Formulated in the USA

SCP 1437 M(draft food handling)

Net Contents

FIRST AID	
If swallowed	Call a poison control center or doctor immediately for treatment advice Have person sip a glass of water if able to swallow Do not induce vomiting unless told to do so by the poison control center or doctor Do not give anything by mouth to an unconscious person
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing Rinse skin immediately with plenty of water for 15 20 minutes Call a poison control center or doctor for treatment advice
If inhaled	Move person to fresh air <ul style="list-style-type: none"> • If person is not breathing call 911 or an ambulance then give artificial respiration preferably by mouth to mouth if possible Call a poison control center or doctor for further treatment advice
Have the product container or label with you when calling a poison control center or doctor or going for treatment	
HOT LINE NUMBER For 24 Hour Medical Emergency Assistance (Human or Animal) Or Chemical Emergency Assistance (Spill Leak Fire or Accident) Call 1 800 888 8372	

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION/PRECAUCION

Harmful if swallowed absorbed through skin or inhaled Avoid breathing vapors Avoid contact with skin or clothing Wash thoroughly with soap and water after handling and before eating drinking chewing gum using tobacco or using the toilet Remove and wash contaminated clothing before reuse

Environmental Hazards

This product is extremely toxic to fish 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 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 runoff to water bodies or drainage systems Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas Apply this product only as specified on this label When making applications care should be used to avoid household pets particularly fish and reptile pets

This product is highly toxic to bees exposed to direct treatment or residues on blooming plants

Physical and Chemical Hazards

Do not use this product in or on electrical equipment due to the possibility of shock hazard from the water used in mixing this product

STORAGE AND DISPOSAL

Do not contaminate water food or feed by storage or disposal

Pesticide Storage

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

Pesticide Disposal

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

Container Handling (less than 5 gallons)

Non refillable container Do not reuse or refill this container Offer for recycling if available Triple rinse container (or equivalent) promptly after emptying Triple rinse as follows Empty the remaining contents into application equipment or a mix tank Drain for 10 seconds after the flow begins to drip Fill the container ¼ full with water and recap Shake for 10 seconds Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal Drain for 10 seconds after the flow begins to drip Repeat this procedure two more times Then 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

Container Handling (5 gallons or greater)

Refillable container 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 person refilling To clean container before final disposal empty the remaining contents from this container into application equipment or mix tank Fill the container about 10 percent full with water Agitate vigorously or recirculate water with the pump for 2 minutes Pour or pump rinsate into application equipment or rinsate collection

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system Repeat this rinsing procedure two more times Then offer for recycling if available or puncture and dispose of in a sanitary landfill or by incineration

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