BES-080609 V1.0

TALSTAR®

One

Insecticide

To control pests indoors and outdoors on residential, institutional, public, commercial, and industrial buildings, greenhouses, animal confinement facilities/livestock premises, kennels, food handling establishments, and lawns, ornamentals, parks, recreational areas and athletic fields.

Provides up to 1 month residual control of house flies
Kills fleas for up to 3 months

EPA Reg. No. 101563-255 **EPA Est. No.**

Active Ingredient:	**By Wt.**
Bifenthrin*	7.9%
Other Ingredients:	92.1%
Total:	100.0%

TALSTAR® One insecticide contains 2/3 pound active ingredient per gallon.
*Cis isomers 97% minimum, trans isomers 3% maximum.

KEEP OUT OF REACH OF CHILDREN

CAUTION

D00001489
22065702B 250407AV1
Net Contents:
One Gallon

envu™

PRODUCED FOR
Environmental Science U.S., LLC
5000 CentreGreen Way, Suite 400
Cary, NC 27513

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

MEDICAL HOTLINE 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 Environmental Science U.S., LLC Emergency Response Telephone No. 1-800-424-9300 for Emergency Assistance.

NOTE TO PHYSICIAN

This product is a pyrethroid. If large amounts have been ingested, the stomach and intestine should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided.

For Technical Support or information regarding the use of this product Call 1-800-331-2867.

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Harmful if swallowed, inhaled or absorbed through skin. Avoid contact with skin, eyes or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove contaminated clothing and wash before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

All pesticide handlers (mixers, loaders and applicators) must wear long-sleeved shirt and long pants, socks, shoes and chemical-resistant gloves. After the product is diluted in accordance with label directions for use, and/or when mixing and loading using a closed spray tank transfer system (such as an in-line injector system) shirt, pants, socks, shoes and waterproof gloves are sufficient. In addition, all pesticide handlers must wear a respiratory protection device[1] when working in a non-ventilated space. All pesticide handlers must wear protective eyewear when working in non-ventilated space.

[1]Use one of the following NIOSH approved respirator with any R, P or HE filter or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any R, P or HE prefilter.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, 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 outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Environmental Hazards

This pesticide is extremely toxic to fish and aquatic invertebrates. Drift and run-off from treated areas may be hazardous to aquatic organisms in neighboring areas. Care should be used when spraying to avoid fish and reptile pets in/around ornamental ponds.

To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. Rinsing application equipment over the treated area will help to avoid run off to water bodies or drainage systems.

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

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Physical and Chemical Hazards

Do not apply water-based dilutions of TALSTAR® ONE insecticide to electrical conduits, motor housings, junction boxes, switch boxes or other electrical equipment because of possible shock hazard.

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DIRECTIONS FOR USE BES-080609 V1.0

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

Do not apply a broadcast application to interior surfaces of homes.
Do not apply by air.
Do not apply in plant nurseries.
Do not apply this product through any kind of irrigation system.
Not for use on sod farm turf, golf course turf, or grass grown for seed.
Do not water treated area to the point of run-off.
Do not make applications during rain.

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

Additional Application Restrictions for Residential Outdoor Surface and Space Sprays:

All outdoor applications, if permitted elsewhere on this label, must be limited to spot or crack-and-crevice treatments only, except for the following permitted uses, if allowed elsewhere on this label:

1. Applications to soil or vegetation, as listed on this label, around structures;
2. Applications to lawns, turf, and other vegetation, as listed on this label;
3. Applications to the side of a building, up to a maximum height of 3 feet above grade;
4. Applications to underside of eaves, soffits, doors, or windows permanently protected from rainfall by a covering, overhang, awning, or other structure;
5. Applications around potential pest entry points into buildings, when limited to a surface band not to exceed one inch in width;
6. Applications made through the use of a coarse, low pressure spray to only those portions of surfaces that are directly above bare soil, lawn, turf, mulch or other vegetation, as listed on this label, and not over an impervious surface, drainage or other condition that could result in runoff into storm drains, drainage ditches, gutters or surface waters, in order to control occasional invaders or aggregating pests.

AGRICULTURE USE REQUIREMENTS*

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry intervals. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as, plants, soil, or water is:

- Coveralls
- Chemical-resistant gloves, such as barrier laminate or butyl rubber or nitrile rubber or neoprene rubber or polyvinyl chloride or viton.
- Shoes plus socks

Do not apply this product in a way that will contact workers or other persons either directly or through drift. Only protected handlers may be in the area during application. For any requirement specific to your State or Tribe, consult the State/Tribal agency responsible for pesticide regulation.

For California
Greenhouse Applicators must wear:

- Full body chemical-resistant protective suit (such as barrier laminate, butyl rubber, nitrile rubber, polyvinyl chloride, or equivalent).

Reapplication Interval: Reapplications to greenhouses must be at intervals of 30 days or longer.

Greenhouse Harvesters must wear:

- **Regular length gloves plus a long sleeved shirt or elbow-length (gaunlet type) gloves during the 30 days following application.**

*These requirements apply only to the greenhouse uses on this label

NON-AGRICULTURAL USE REQUIREMENTS**

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standards for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries and greenhouses.

Do not allow people or pets on treated surfaces until the spray has dried.

**These requirements apply to all other non-greenhouse uses on this label

Use Directions for Container

1. Remove the measuring chamber cap and induction seal. Replace the cap and securely tighten. Tip container until liquid fills measuring chamber.
2. Return container to level position. No adjustment is needed.
3. Remove measuring chamber cap and dispense into proper application equipment.

For multiple dose measuring: Remove fill chamber cap and dispense according to markings on side of bottle.

STORAGE AND DISPOSAL

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

Pesticide Storage: Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use replace lids and close tightly. Do not put concentrate or dilute material into food or drink container.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills. You may contact the Environmental Science U.S., LLC Emergency Response Team for decontamination procedures or any other assistance that may be necessary. The Environmental Science U.S., LLC Emergency Response Telephone No. is 1-800-424-9300.
To Confine Spill: If liquid, dike surrounding area or absorb with sand, cat litter or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

Pesticide Disposal: Pesticide wastes are toxic. 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:
Container Handling: Non-refillable container. Do not reuse or refill this container. Triple rinse as follows:
(For containers less than 5 gallons) Empty the contents into application equipment or a mix tank and drain for 10 seconds after flow begins to drip. Fill container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling, if available or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or incineration or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

(For containers greater than 5 gallons) Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ 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.

Returnable/Refillable Sealed Container: Refill this container with pesticide only. Do not reuse this container for any other purpose. Do not rinse container. Do not empty remaining formulated product. Do not break seals. Return intact to point of purchase. 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.

Product Information

TALSTAR ONE insecticide controls a wide spectrum of insects and mites on trees, shrubs, foliage plants, non-bearing fruit and nut trees, and flowers in greenhouses, interiorscapes including hotels, shopping malls, office buildings, etc., and outdoor plantscapes, such as around residential dwellings, parks, institutional buildings, recreational areas, athletic fields and home lawns. Non-bearing crops are perennial crops that will not produce a harvestable raw agricultural commodity during the season of application. TALSTAR ONE insecticide may also be used in

feed and food handling establishments, animal confinement facilities, kennels, confined animal feeding operations, livestock premises, and in/around/under structures.

Resistance: Some insects are known to develop resistance to products used repeatedly for control. Because the development of resistance cannot be predicted, the use of this product should conform to resistance management strategies established for the use area. Consult your local or state pest management authorities for details.

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 suspect that resistance is a reasonable cause, immediately consult your local company representative or pest management advisor for the best alternative method of control for your area.

TALSTAR ONE insecticide Dilution Chart

			Fl oz of TALSTAR ONE insecticide Diluted to these Volumes of Finished Spray			
Application Volume:		Application Rate:	1 Gallon	5 Gallons	10 Gallons	100 Gallons
% a.i.	Gal/ 1,000 sq ft	Fl oz/ 1,000 sq ft	fl oz	fl oz	fl oz	fl oz
0.008	1.0	0.125	0.125	0.63	1.25	12.5
0.011	1.0	0.18	0.18	0.90	1.8	18.0
0.015	1.0	0.25	0.25	1.25	2.5	25.0
0.020	1.0	0.33	0.33	1.67	3.33	33.3
0.031	1.0	0.5	0.5	2.5	5.0	50.0
0.041	1.0	0.67	0.67	3.33	6.67	66.7
0.046	1.0	0.75	0.75	3.75	7.5	75.0
0.062	1.0	1.0	1.0	5.0	10.0	100.0

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TALSTAR ONE Insecticide Dilution Chart

Application Volume:		Application Rate:	Fl oz of TALSTAR ONE insecticide Diluted to these Volumes of Finished Spray			
			1 Gallon	5 Gallons	10 Gallons	100 Gallons
% a.i.	Gal/ 1,000 sq ft	Fl oz/ 1,000 sq ft	fl oz	fl oz	fl oz	fl oz
0.004	2.0	0.125	-	0.31	0.63	6.3
0.006	2.0	0.18	-	0.45	0.90	9.0
0.008	2.0	0.25	0.13	0.63	1.25	12.5
0.010	2.0	0.33	0.17	0.83	1.65	16.5
0.015	2.0	0.5	0.25	1.25	2.5	25.0
0.021	2.0	0.67	0.33	1.67	3.35	33.5
0.023	2.0	0.75	0.38	1.88	3.75	37.5
0.031	2.0	1.0	0.5	2.5	5.0	50.0
0.003	3.0	0.125	-	0.21	0.42	4.2
0.004	3.0	0.18	-	0.30	0.60	6.0
0.005	3.0	0.25	-	0.42	0.83	8.3
0.007	3.0	0.33	0.11	0.55	1.10	11.0
0.010	3.0	0.5	0.17	0.83	1.67	16.7
0.014	3.0	0.67	0.22	1.11	2.23	22.3
0.015	3.0	0.75	0.25	1.25	2.5	25.0
0.021	3.0	1.0	0.33	1.67	3.33	33.3
0.002	4.0	0.125	-	0.16	0.31	3.1
0.003	4.0	0.18	-	0.23	0.45	4.5
0.004	4.0	0.25	-	0.31	0.63	6.3
0.005	4.0	0.33	-	0.41	0.83	8.3
0.008	4.0	0.5	0.13	0.63	1.25	12.5
0.010	4.0	0.67	0.17	0.84	1.67	16.7
0.012	4.0	0.75	0.19	0.94	1.88	18.8
0.015	4.0	1.0	0.25	1.25	2.5	25.0

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TALSTAR ONE Insecticide Dilution Chart

			Fl oz of TALSTAR ONE insecticide Diluted to these Volumes of Finished Spray			
Application Volume:		Application Rate:	1 Gallon	5 Gallons	10 Gallons	100 Gallons
% a.i.	Gal/ 1,000 sq ft	Fl oz/ 1,000 sq ft	fl oz	fl oz	fl oz	fl oz
0.002	5.0	0.125	-	0.13	0.25	2.5
0.002	5.0	0.18	-	0.18	0.36	3.6
0.003	5.0	0.25	-	0.25	0.5	5.0
0.004	5.0	0.33	-	0.33	0.67	6.7
0.006	5.0	0.5	0.1	0.5	1.0	10.0
0.008	5.0	0.67	0.13	0.67	1.33	13.3
0.009	5.0	0.75	0.15	0.75	1.5	15.0
0.012	5.0	1.0	0.2	1.0	2.0	20.0
0.001	10.0	0.125	-	-	0.13	1.3
0.001	10.0	0.18	-	-	0.18	1.8
0.002	10.0	0.25	-	0.13	0.25	2.5
0.002	10.0	0.33	-	0.17	0.33	3.3
0.003	10.0	0.5	-	0.25	0.5	5.0
0.004	10.0	0.67	-	0.33	0.67	6.7
0.005	10.0	0.75	-	0.38	0.75	7.5
0.006	10.0	1.0	0.1	0.5	1.0	10.0

1 fl oz = 29.57 ml = 2 tablespoons = 6 teaspoons
Do not use household utensils to measure TALSTAR ONE insecticide.
Note: Higher finished volume should be applied to penetrate thatch, mulch, brush, and porous surfaces. Lower finished volumes can be used indoors and for non-porous surfaces.
Do not apply more than 1 oz TALSTAR ONE insecticide per 1,000 sq ft.

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GENERAL APPLICATION INSTRUCTIONS

TALSTAR ONE insecticide formulation mixes readily with water and other aqueous carriers.

TALSTAR ONE insecticide may be tank-mixed with adjuvants, and with other pesticides, including insect growth regulators. When tank mixing TALSTAR ONE insecticide with other pesticides, observe all precautions and limitations on each separate product label. The physical compatibility of TALSTAR ONE insecticide may vary with different sources of pesticide products, and local cultural practices. Any tank mixture which has not been previously tested should be prepared on a small scale (pint or quart jar), using the proper proportions of pesticides and water to ensure the physical compatibility of the mixture.

The following procedure is recommended for preparation of a new tank mix, unless specified otherwise in label directions: (1) Add wettable powders to tank water, (2) Agitate, (3) Add liquids and flowables, (4) Agitate, (5) Add emulsifiable concentrates, and (6) Agitate. If a mixture is found to be incompatible following this order of addition, try reversing the order of addition, or increase the volume of water. Note: **If the tank-mixture is found to be compatible after increasing the amount of water, then the sprayer will need to be recalibrated for a higher volume application. Do not allow tank mix to stand overnight.**

Formula for Determining the Active Ingredient Content of the Finished Spray Mixture: The following formula may be used to determine the percent active ingredient that is in the spray tank after mixing TALSTAR ONE insecticide:

$$\frac{(7.9)(\text{Fl oz of TALSTAR ONE insecticide added to tank})}{(\text{Gallons of finished spray mix})(128)} = \textbf{Percent Active Ingredient of spray mix}$$

APPLICATION DIRECTIONS

ANT CONTROL

Nuisance Ants Indoors: For best results, locate and treat ant nests. Dilute 0.5 to 1.0 fl oz of TALSTAR ONE insecticide per gallon of water and apply at the rate of One gallon of dilution per 1,000 sq ft as a crack and crevice or spot treatment to areas where ants have been observed or are expected to forage. These areas include, but are not limited to, baseboards, in and behind cabinets, under and behind dishwashers, furnaces, refrigerators, sinks and stoves, around pipes, cracks and crevices and in corners. Particular attention should be given to treating entry points into the home or premises such as around doors and windows. When using TALSTAR ONE insecticide in combination with baits, apply TALSTAR ONE insecticide as instructed above, and use baits in other areas that have not been treated with TALSTAR ONE insecticide.

Nuisance Ants Outdoors: For best results, locate and treat ant nests. Apply TALSTAR ONE insecticide to ant trails around doors and windows and other places where ants have been observed or are expected to forage. Apply a perimeter treatment using either low or high volume applications described in the "Pest Control on Outside Surfaces and Around Buildings" section of this label. The higher dilutions and/or application volumes, as well as more frequent applications, may be necessary when treating concrete surfaces for ant control. Maximum control is generally achieved using the following procedure:

The following procedure must be followed to help achieve maximum control of the pest:

1) Treat non-porous surfaces only in areas protected from rainfall and spray from sprinklers with low volume applications using 0.5 to 1.0 fl oz of TALSTAR ONE insecticide per gallon of water and applying this dilution at the rate of one gallon per 1,000 sq ft.
2) Treat porous surfaces and vegetation with high volume applications (usually 5 to 10 finished gallons per 1,000 sq ft) using dilutions that are calculated to deliver 0.5 to 1.0 fl oz of TALSTAR ONE insecticide per 1,000 sq ft (refer to the TALSTAR ONE insecticide Dilution Chart).
3) For maximum residual control, dilute 1.0 fl oz of TALSTAR ONE insecticide per gallon of water and apply at a rate of up to 10 gallons of dilution per 1,000 sq ft.

Carpenter Ants Indoors: Dilute 0.5 to 1.0 fl oz of TALSTAR ONE insecticide per gallon of water and apply at the rate of one gallon of dilution per 1,000 sq ft as a crack and crevice or spot treatment to areas where carpenter ants have been observed or are expected to forage. These areas include, but are not limited to, baseboards, in and behind cabinets, under and behind dishwashers, furnaces, refrigerators, sinks, and stoves, around pipes, cracks and crevices and in corners. Particular attention should be given to treating entry points into the home or premises such as around doors and windows. Spray or foam into cracks and crevices or drill holes and spray, mist or foam into voids where carpenter ants or their nests are present. When using TALSTAR ONE insecticide in combination with baits, apply TALSTAR ONE insecticide as instructed above, and use baits in other areas that have not been treated with TALSTAR ONE insecticide.

Carpenter Ants Outdoors: Apply TALSTAR ONE insecticide to carpenter ant trails around doors and windows and other places where carpenter ants have been observed or are expected to forage. For best results, locate and treat carpenter ant nests. Apply a perimeter treatment using either low or high volume applications described in the "Pest Control on Outside Surfaces and Around Buildings" section of this label. The higher dilutions and/or application volumes, as well

as more frequent applications, may be necessary when treating concrete surfaces for ant control. Maximum control is generally achieved using the following procedure:

The following procedure must be followed to help achieve maximum control of the pest:

1) Treat non-porous surfaces only in areas protected from rainfall and spray from sprinklers with low volume applications using 0.5 to 1.0 fl oz of TALSTAR ONE insecticide per gallon of water and applying this dilution at the rate of one gallon per 1,000 sq ft.
2) Treat the trunks of trees that have carpenter ant trails, or upon which carpenter ants are foraging, using 0.5 to 1.0 fl oz of TALSTAR ONE insecticide per gallon of water and applying this dilution to thoroughly wet the bark from the base of the tree to as high as possible on the trunk
3) Treat porous surfaces and vegetation with high volume applications (usually 5 to 10 finished gallons per 1,000 sq ft) using dilutions that are calculated to deliver 0.5 to 1.0 fl oz of TALSTAR ONE insecticide per 1,000 sq ft (refer to the TALSTAR ONE insecticide Dilution Chart)
4) For maximum residual control, dilute 1.0 fl oz of TALSTAR ONE insecticide per gallon of water and apply at a rate of up to 10 gallons of dilution per 1,000 sq ft.

To control carpenter ants inside trees, utility poles, fencing or deck materials and similar structural members, drill to locate the interior infested cavity and inject or foam a 0.06% dilution (1.0 fl oz of TALSTAR ONE insecticide per gallon of water) into the cavity using a sufficient volume and an appropriate treatment tool with a splashback guard.

To control carpenter ants that are tunneling in the soil, dilute 0.5 to 1.0 fl oz of TALSTAR ONE insecticide per gallon of water and apply as a drench or inject the dilution or foam at intervals of 8 to 12 inches. Establish a uniform vertical barrier at the edges of walls, driveways or other hard surfaces where ants are tunneling beneath the surfaces.

To protect firewood from carpenter ants, dilute 1.0 fl oz of TALSTAR ONE insecticide per gallon of water and apply to the soil beneath where the firewood will be stacked at the rate of one gallon of dilution per 8 sq ft.

For wood piles and stored lumber apply a 0.06% dilution. Use a hose-end sprayer or sprinkling can to deliver a coarse drenching spray. Treated wood can be burned as firewood or used for lumber one month after treatment. Do not use in structures.

For Ant and Fire Ant Mounds, control is optimized by combining broadcast applications that will control foraging workers and newly mated fly-in queens with mound drenches that will control existing colonies. If the soil is not moist, then it is important to irrigate before application or

use a high volume application. Apply broadcast treatments at 0.6 to 1 fl oz per 1,000 sq ft. Use enough finished volume to penetrate thatch or sod. Treat mounds by applying 1 fl oz TALSTAR ONE insecticide per mound in 1 to 2 gallons water by sprinkling the mound until it is wet and treat 3 feet out around the mound. Use the higher volume for mounds larger than 12. Treat mounds with sufficient force to break their apex and allow the insecticide solution to flow into the ant tunnels. For best results, apply in cool weather (65 - 80˚F) or in early morning or late evening hours.

PEST CONTROL ON OUTSIDE SURFACES AND AROUND BUILDINGS

TALSTAR ONE insecticide will provide up to 1 month residual control of house flies. Length of residual control is dependant upon rate and surface treated.

Follow Additional Application Restrictions for Outdoor Surface and Space Sprays under DIRECTIONS FOR USE

Applications to vertical exterior surfaces (e.g., foundations) are permitted to a maximum height of 3 feet from ground level. Sections of vertical exterior surfaces that abut non-porous horizontal surfaces can only be treated if either 1) these sections are protected from rainfall and spray from sprinklers or 2) they do not drain into a sewer, storm drain, or curbside gutter (e.g., not to sections that abut driveways or sidewalks that drain into streets).

For control of Ants, Carpenter Ants, Fire Ants, Armyworms, Lady Beetles, Bees, Beetles†, Biting Flies, Boxelder Bugs, Centipedes, Chiggers, Chinch Bugs, Cicadas, Clover Mites, Cockroaches, Crickets, Cutworms, Dichondra Flea Beetles, Earwigs, Elm Leaf Beetles, Firebrats, Fleas, Flies, Gnats, Grasshoppers, Hornets, Japanese Beetles†, Midge, Millipedes, Mosquitoes, Moths, Scorpions, Silverfish, Sod Webworms, Sowbugs (Pillbugs), Spider Mites, Spiders (including Black Widow, Brown Recluse and Hobo Spiders), Springtails, Stink Bugs, Ticks (including Brown Dog Ticks), and Vinegar (Fruit) Flies, Wasps.
†Not registered for use in California.

Apply TALSTAR ONE insecticide using a 0.02 to 0.06% dilution as a residual spray to outside surfaces of buildings including, but not limited to, exterior siding, foundations, porches, window frames, eaves, patios, garages, refuse dumps, lawns such as grass areas adjacent or around private homes, duplexes, townhouses, condominiums, house trailers, apartment complexes, carports, garages, fence lines, storage sheds, barns, and other residential and non-commercial structures, soil, trunks of woody ornamentals and other areas where pests congregate or have been seen. Do not apply more than 1 fl oz TALSTAR ONE insecticide per 1,000 sq ft. (Refer to the TALSTAR ONE insecticide Dilution Chart.) Higher application volumes may be used to obtain the desired coverage of dense vegetation or landscaping materials.

Mixing Directions: For 0.02% dilution, mix 0.33 fl oz of TALSTAR ONE insecticide per gallon of water. For 0.06% dilution, mix 1 fl oz TALSTAR ONE insecticide per gallon of water (1 fl oz = 2 tablespoons). Do not use household utensils to measure TALSTAR ONE insecticide. Use the higher rate for heavy pest infestation, quicker knockdown or longer residual control. Retreatment may be necessary to achieve and/or maintain control during periods of high pest pressure. Repeat application is necessary only if there are signs of renewed insect activity. Repeat application should be limited to no more than once per seven days.

Perimeter Treatment: Apply to a band of soil and vegetation 6 to 10 feet wide around and adjacent to the structure. Also, treat the foundation of the structure to a height of 2 to 3 feet. Apply 0.33 to 1.0 fl oz of TALSTAR ONE insecticide per 1,000 sq ft in sufficient water to provide adequate coverage (refer to TALSTAR ONE insecticide Dilution Chart). For sections of foundation that abut non-porous horizontal surfaces, the treated areas must be protected from rainfall and spray from sprinklers or they do not drain into a sewer, storm drain, or curbside gutter (e.g. not to sections that abut driveways or sidewalks that drain into streets).

Broadcast Treatment of Wood for the Control of Wood-infesting Insects and Nuisance Pests Outside of Structures

Apply a 0.06% dilution with a fan spray using a maximum pressure of 25 psi. Treatment should be made to thoroughly and uniformly cover the surface but limit excess runoff.

To control wood-infesting insects active inside trees, utility poles and/or fence posts, drill to find the interior infested cavity and inject a 0.06% dilution. To control Bees, Wasps, Hornets, and Yellow Jackets, apply in late evening when insects are at rest. Aim spray at nest openings in ground, bushes and in cracks and crevices which may harbor nests, saturating nest openings and contacting as many insects as possible.

Pests Under Slabs

Infestations of Arthropods, such as Ants, Cockroaches and Scorpions inhabiting under slab area may be controlled by drilling and injecting or horizontal rodding and then injecting 1 gallon of a 0.06% or ½ gallon of a 0.12% dilution per 10 sq ft, (or 2 gallons of a 0.06% dilution or 1 gallon of a 0.12% dilution per 10 linear feet).

MOSQUITO CONTROL

To control adult mosquitoes outdoors on residential, institutional, public, commercial and industrial buildings, and lawns, ornamentals, parks, recreational areas and athletic fields.

Apply TALSTAR ONE insecticide for mosquito control at an application rate of 0.33 to 1.0 fl oz

TALSTAR ONE insecticide per gallon of water (0.07 to 0.22 lbs bifenthrin/acre), and apply at the rate of one gallon of dilution per 1,000 sq ft as a general spray (refer to the TALSTAR ONE insecticide Dilution Chart). Use the high rate for residual control of mosquitoes. Use this product for control of mosquitoes that may potentially transmit malaria, and arboviruses (West Nile fever, dengue fever, Eastern equine encephalitis, and St. Louis encephalitis.)

Apply as a residual spray to outside surfaces of buildings including but not limited to, exterior siding, foundations, porches, window frames, eaves, patios, garages, refuse dumps, lawns such as grass areas adjacent to or around private homes, duplexes, townhouses, condominiums, house trailers, apartment complexes, carports, fence lines, storage sheds, barns, and other commercial, residential and non commercial structures, soil, trunk of woody ornamentals, trees, shrubs, ground cover, bedding plants, foliage plants, flowers, non-bearing fruit and nut trees urban areas, parks, campsites, athletic fields, playgrounds, recreational and overgrown waste areas, roadsides and other areas where mosquitoes are found. May also be applied to non-bearing crops or perennial crops that will not produce harvestable raw agricultural commodities during the season of application.

Use the high rate for heavy pest infestation, quicker knockdown, or longer residual control. Retreatment may be necessary to achieve and/or maintain control during periods of high pest pressure, or if there are signs of renewed insect activity. For the lower use rates, repeat application should be limited to no more than once per seven days. For the high use rate of 1.0 fl oz TALSTAR ONE insecticide per gallon of water, do not apply more than once per four weeks.

Apply with hand-held and back pack sprayers or mist blowers, ground sprayers, power sprayers, truck mounted hydraulic sprayers or mist blowers. Do not apply by air or with hand held or truck mounted cold aerosol ULV sprayers and thermal fogging devices. For best results apply when the mosquitoes are most active. Application during the cooler hours of the night or early mornings is recommended.

Do not apply more than 1.0 fl oz of TALSTAR ONE insecticide per 1,000 sq ft (equivalent to 0.22 lbs. bifenthrin/acre) per application

Do not apply when wind speed exceeds 10 mph.

INDOOR USE

For control of Ants, Carpenter Ants, Bedbugs, Bees, Beetles, Biting Flies, Boxelder Bugs, Centipedes, Cicadas, Cockroaches, Crickets, Earwigs, Firebrats, Fleas, Flies, Gnats, Millipedes, Mosquitoes, Moths, Scorpions, Silverfish, Sowbugs (Pillbugs), Spider Mites, Spiders (including Black Widow, Brown Recluse and Hobo Spiders), Springtails, Stink Bugs, Ticks (including Brown Dog Ticks), Vinegar (Fruit) Flies, and Wasps.

In the home, all food processing surfaces and utensils should be covered during treatment or thoroughly washed before use. Exposed food should be covered or removed.

Use a 0.02% to 0.06% dilution (0.33 to 1 fl oz per gallon of water) for residual pest control in buildings and structures and on modes of transport. Apply either as a crack and crevice, pinstream, spot, coarse, low pressure spray (25 psi or less) or with a paint brush.

Apply as a coarse, low pressure, crack and crevice or spot spray to areas where pests hide, such as baseboards, corners, storage areas, closets, around water pipes, doors and windows, attics and eaves, behind and under refrigerators, cabinets, sinks, furnaces, stoves, the underside of shelves, drawers and similar areas. Do not use as a space spray. Pay particular attention to cracks and crevices.

Mixing Directions: See mixing directions in “Pest Control on Outside Surfaces and Around Buildings” section.

TALSTAR ONE insecticide is to be diluted with water for spray or brush application. Fill sprayer with the desired volume of water and add TALSTAR ONE insecticide. Close and shake before use in order to insure proper mixing. Mix only the amount of solution needed for the application. Retreatment may be necessary to achieve and/or maintain control during periods of high pest pressure. Repeat application is necessary only if there are signs of renewed insect activity. Limit repeat application to no more than once per seven days.

TALSTAR ONE insecticide may be converted to a foam and used to treat void spaces, floor drains (to sewers) or as a spot spray on vertical or horizontal surfaces where visual marking of application is desired. Use of a foaming agent like Upgrade amplifying foam increases a.i. surface contact time on challenging surfaces and provides visual marking of the application.

Bedbugs: Thorough application should be made to crack and crevices where evidence of bed bugs occurs. This includes bed frames, box springs, inside empty dressers and clothes closets and carpet edges, high and low wall moldings and wallpaper edges. Do not use this product on bed linens, pillows, mattresses or clothes. Remove all clothes and other articles from dressers or clothes closets before application. Allow all treated areas to thoroughly dry before use. Not recommended for use as sole protection against bedbugs. If evidence of bedbugs is found in/on mattresses, use products approved for this use.

Use 0.03% or 0.06% dilution (0.5 to 1 fl oz per gallon of water). for residual pest control in buildings and structures and on modes of transport. Apply either as a crack and crevice, pinstream, spot, coarse, low pressure spray (25 psi or less) or with a paint brush. Use the higher rate of application (0.06%) on painted and non-porous surfaces.

Cockroaches, Crickets, Firebrats, Flies, Gnats, Moths, Mosquitoes, Scorpions, Silverfish, Spiders, Ticks,:

TALSTAR ONE insecticide will provide up to 1 month residual control of house flies. Length of residual control is dependant upon rate and surface treated.

Apply as a coarse, low pressure spray to areas where these pests hide, such as baseboards, corners, storage areas, closets, around water pipes, doors and windows, attics and eaves, behind and under refrigerators, cabinets, sinks, furnaces, and stoves, the underside of shelves, drawers and similar areas. Pay particular attention to cracks and crevices.

Ants: Apply to any trails, around doors and windows and other places where ants may be found.

Fleas:

TALSTAR ONE insecticide will kill fleas for up to 3 months

Apply as a coarse, low pressure spot or crack and crevice treatment to areas frequented by pets, such as under bedding, rugs, next to furniture. Do not apply TALSTAR ONE insecticide dilution directly to pets. Treatment must be dry before pet re-entry. Vacuum prior to treatment.

Boxelder Bugs, Centipedes, Cicadas, Earwigs, Beetles, Millipedes, Pillbugs, and Sowbugs, Springtails, Stink Bugs: Apply around doors and windows and other places where these pests may be found or where they may enter premises. Check damp areas and drains for pest access. Spray baseboards, storage areas and other locations.

Spider Mites: Treat houseplants thoroughly but do not allow run off to occur. Make sure to treat underside of leaves.

Bees and Wasps: To control Bees, Wasps, Hornets, and Yellow Jackets apply a 0.06%. Application should be made in the late evening when insects are at rest. Thoroughly spray nest and entrance and surrounding areas where insects alight. Spray liberally into hiding and breeding places, especially under attic rafters, contacting as many insects as possible. Retreatment may be necessary to achieve and/or maintain control during periods of high pest pressure. Repeat application is necessary only if there are signs of renewed insect activity.

Precautions: Do not apply dilution until location of heat pipes, ducts, water and sewer lines and electrical conduits are known and identified. Caution must be taken to avoid puncturing and injection into these structural elements. During any overhead applications to overhead interior areas of structures, cover surfaces below with plastic sheeting or similar materials.

Restrictions:

Do not apply into electrical fixtures, switches, or sockets.
In the home, all food processing surfaces and utensils in the treatment area should be covered during treatment or thoroughly washed before re-use. Remove pets, birds, and cover aquariums before spraying. Do not permit humans or pets to contact treated surfaces until the spray has dried.

Wear protective clothing, unvented goggles, gloves and respirator, when applying to overhead areas or in poorly ventilated areas. Avoid touching sprayed surfaces until spray has completely dried.

FOR CONTROL OF STORED PRODUCTS PESTS

Including Indian Meal Moths, Rice Moths, Tobacco Moths, Flour Beetles, Lesser Grain Borers, Merchant Grain Beetles, Sawtoothed Grain Beetles, Grain Weevils, Warehouse Beetles, Cigarette Beetles, and Dermestid Beetles, Psocids, and other similar pests. Inspect to locate and remove infested food sources, remove or cover any food items or food serving dishes or utensils prior to treatment. Apply TALSTAR ONE insecticide using a 0.02 to 0.06% dilution, Apply as a coarse, low pressure spray to areas where these pests hide, such as baseboards, corners, storage areas, closets, around water pipes, doors and windows, attics and eaves, behind and under refrigerators, cabinets, sinks, furnaces, and stoves, the underside of shelves, drawers and similar areas. Pay particular attention to cracks and crevices. Do not apply directly to food.

WAREHOUSES and GROCERY/PET STORES: TALSTAR ONE insecticide dilution may be applied as a surface, spot or crack and crevice treatment in food and nonfood storage warehouses and stores. Apply to all areas that may harbor pests, including under and between pallets, bins, and shelves. Do not apply directly to food, grain bins (interior), or animals.

FOOD/FEED HANDLING ESTABLISHMENT APPLICATIONS

Applications of this product are permitted in both food/feed and non-food areas of food/feed handling establishments as a surface, spot, or crack and crevice treatment.

TALSTAR ONE insecticide will provide up to 1 month residual control of house flies. Length of residual control is dependant upon rate and surface treated.

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. Serving areas where food is exposed and the facility is in operation are also considered food areas.

Permitted non-food areas of use include, garbage rooms, lavatories, floor drains (to sewers), entries and vestibules, offices, locker rooms, machine rooms, garages, mop closets and storage (after canning or bottling).

Permitted use sites include, but are not limited to: Aircraft (Do not use in aircraft cabins), apartment buildings, bakeries, bottling facilities, breweries, buses, cafeterias, candy plants, canneries, dairy product processing plants, food manufacturing plants, food processing plants, food service establishments, granaries, grain mills, hospitals, hotels, industrial buildings, laboratories, meat/poultry/egg processing plants, mobile/motor homes, nursing homes offices, railcars, restaurants, schools, ships, trailers, trucks, vessels, warehouses and wineries.

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

Spot, Crack and Crevice Application: Spot or crack and crevice applications may be made while the facility is in operation; however, food should be covered or removed from area being treated. Do not apply directly to food. For this application a spot will not exceed 2 ft^2.

ANIMAL CONFINEMENT FACILITIES, LIVESTOCK PREMISES, CONFINED ANIMAL FEEDING OPERATIONS, AND KENNELS

Controls biting flies, filth-breeding flies, fleas, litter beetles, hide beetles, bed bugs, mites, and ticks. Apply as a surface (including directed spray) and/or crack and crevice treatment. Control is enhanced when interior and exterior perimeter applications are made in and around the livestock, poultry, or pet housing structures. Normal cleaning practices of the structure also must be followed along with applications of TALSTAR ONE insecticide to effectively control crawling and flying insect pests.

For occupied areas of poultry/livestock facilities and kennels, apply to indoor cracks and crevices only. Exterior applications to walls and foundation perimeters can help prevent interior infestations of flying and crawling insect pests. Apply TALSTAR ONE insecticide at a rate equivalent to 0.33 to 1 fl oz per 1,000 sq ft.

For unoccupied areas of poultry/livestock facilities and kennels, apply to floors, vertical and overhead surfaces where crawling or flying insect pests may be present. Feeders, waterers, and feed carts should be covered before application to prevent contamination. Do not apply to milk rooms. Pay attention to animal areas including stanchions, pipes, windows, doors, and areas

where insect pests hide or congregate. Exterior applications to walls and foundation perimeters can help prevent interior infestations of flying and crawling insect pests. Apply TALSTAR ONE insecticide at a rate equivalent to 0.33 to 1 fl oz per 1,000 sq ft. Use sufficient finished volume to penetrate leaf litter, thatch, mulch, or porous surfaces.

To control bed bugs, mites and ticks in animal facilities, treat cracks/crevices, walls, posts, nest boxes, and mobile side curtains. Do not apply TALSTAR ONE insecticide directly to animals. To control bedbugs, use 0.5 to 1 fl oz per 1,000 sq ft. Use the higher rate of application on painted and non-porous surfaces.

For adult fly control in and around animal facilities, spray application should target areas where flies will rest, such as the ceiling, rafters, and trusses. Also treat windows, interior and exterior walls and supports, fences, and vegetation. TALSTAR ONE insecticide dilution may be sprayed on manure in areas where fly larvae are abundant and the area cannot be cleaned.

For poultry houses, apply to floor area (birds grown on litter) or to walls, posts, and cage framing (birds grown in cages). Application should also be made into cracks and crevices around insulation. Reapply after each growout or sanitization procedure, but not more frequently than every 8 weeks. Indoor control can be enhanced by making perimeter treatments around the outside of building foundations to prevent immigrating adult beetles. Apply in a uniform band 2 to 3 ft up and 6 to 10 ft out from the structure. Maintaining a year-round treatment program will prevent background populations from reaching problem levels.

To control beetles in houses containing birds grown on litter, apply TALSTAR ONE insecticide at a rate equivalent to 0.33 to 1 fl oz per 1,000 sq ft to litter after birds are removed and during tilling. If litter is removed and replaced with fresh litter, apply TALSTAR ONE insecticide at a rate equivalent to 0.33 to 1 fl oz per 1,000 sq ft to bare soil or concrete, and treat new litter after it is spread. Apply spray to inside walls, posts, and exterior perimeter. Reapply between each flock.

To control beetles in broiler-breeder houses, apply as directed above for litter and soil/floor treatment.

To control beetles in caged-layer houses, do not treat accumulated manure, as it will likely disrupt natural enemies that control fly breeding. Instead, treat the perimeter of the manure at a rate equivalent to 0.33 to 1 fl oz TALSTAR ONE insecticide per 1,000 sq ft. Pit walls, posts, and exterior of structure should also be sprayed. Reapply between each flock.

Allow TALSTAR ONE insecticide treatment to dry before applying disinfectants.
DO NOT apply TALSTAR ONE insecticide as a surface spray when animals are present in the facility. Allow applications to dry before restocking the facility. Treatment may be made to cracks and crevices when animals are present.

DO NOT apply TALSTAR ONE insecticide to any animal feed, water, or watering equipment.

DO NOT contaminate any animal feed, food, or water in and around livestock, poultry, or pet housing when making applications.

Foam Applications: TALSTAR ONE insecticide may be converted to a foam and used to treat void spaces, floor drains (to sewers) or as a spot spray on vertical or horizontal surfaces where visual marking of application is desired. Use of a foaming agent like Upgrade amplifying foam increases a.i. surface contact time on challenging surfaces and provides visual marking of the application. Ensure that the foaming agent is approved for food surface/area contact use.

SPECIFIC PEST CONTROL APPLICATIONS

Underground Services such as: wires, cables, utility lines, pipes, conduits, etc. Services may be within structures or located outside structures, in right-of-ways or to protect long range (miles) of installations of services.

Soil treatment may be made using 0.06 to 0.12% TALSTAR ONE insecticide dilution to prevent attack by Ants.

Apply 2 gallons of dilution per 10 linear feet to the bottom of the trench and allow to soak into the soil. Lay services on the treated soil and cover with approximately 2 inches of fill soil. Apply another 2 gallons per 10 linear feet over the soil surface to complete the treatment barrier. In wide trenches, only treat the soil in the area near the services. It is important to establish a continuous barrier of treated soil surrounding the services.

Where soil will not accept the above labeled volume, 1 gallon of 0.12% TALSTAR ONE insecticide may be used per 10 linear feet of trench both to the bottom of the trench and over the soil on top of the services.

Finish filling the trench with treated fill soil. The soil where each service protrudes from the ground may be treated by trenching/rodding of no more than 1 to 2 gallons of dilution into the soil.

Restrictions:
Do not treat electrically active underground services.

Posts, Poles, and Other Constructions: Create an insecticidal barrier in the soil around wooden constructions such as signs, fences and landscape ornamentation by applying a 0.06% dilution.

Previously installed poles and posts may be treated by sub-surface injection or treated by gravity-flow through holes made from the bottom of a trench around the pole or post. Treat on all sides

to create a continuous insecticidal barrier around the pole. Use 1 gallon of dilution per foot of depth for poles and posts less than six inches in diameter. For larger poles, use 1.5 gallons of dilution per foot of depth. Apply to a depth of 6 inches below the bottom of the wood. For larger constructions, use 4 gallons per 10 linear feet per foot of depth.

Treatment of Wood-in-Place for Control of Wood-Infesting Insects:
(Localized Areas in Structure) For the control of insects such as Ants, Carpenter Ants, and wood-infesting beetles such as Old House Borer and Powder Post in localized areas of infested wood in and around structures, apply a 0.06% dilution to voids and galleries in damaged wood and in spaces between wooden members of a structure and between wood and foundations where wood is vulnerable. Paint on or fan spray applications may also be used. Plastic sheeting must be placed immediately below overhead areas that are spot treated except for soil surfaces in crawl spaces. Application may be made to inaccessible areas by drilling, and then injecting dilution with a crack and crevice injector into the damaged wood or void spaces. This type of application is not intended to be a substitute for soil treatment, mechanical alteration or fumigation to control extensive infestation of wood-infesting insects.

Pest Control in Crawlspaces and Voids: Broadcast TALSTAR ONE insecticide at 0.02% to 0.06% to all surfaces in crawlspace and/or void to control ants, fleas, roaches, scorpions, or other arthropods.

Treatment should be made to thoroughly and uniformly cover the surface but limit excess runoff. Keep children and pets off surface until dry.

LAWNS

Apply TALSTAR ONE insecticide as a broadcast treatment. Use application volumes of up to 10 gallons per 1,000 sq ft to get uniform coverage when treating dense grass foliage.

For low volume applications, less than 2 gallons/1,000 sq ft, immediate irrigation of treated area with at least 0.25 inches of water following application to ensure efficacy of sub-surface pests such as, but not limited to, Mole Crickets, is recommended.

Lawn Application Rates

The application rates listed in the following table will provide excellent control of the respective pests under typical conditions. However, at the discretion of the applicator, TALSTAR ONE insecticide may be applied at up to 1 fl oz per 1,000 sq ft to control each of the pests listed in this Table. The higher application rates should be used when maximum residual control is desired or heavy pest populations occur.

Pest	Application Rate TALSTAR ONE insecticide (fl oz per 1,000 sq ft)
Armyworms[1] Cutworms[1] Sod Webworm[1]	0.18 - 0.25
Annual Bluegrass Weevil (Hyperodes) (Adult)[2] Banks Grass Mite[6] Billbugs (Adult)[3] Black Turfgrass Ataenius (Adult)[4] Centipedes Crickets Earwigs Fleas (Adult) Grasshoppers Leafhoppers Mealybugs Millipedes Mites[6] Pillbugs Sowbugs	0.25 - 0.5
Crane Flies[12]	0.5

(Continued on next page)

Pest	Application Rate TALSTAR ONE insecticide (fl oz per 1,000 sq ft)
Ants Chinch Bugs[5] Fleas (Larvae)[7] Imported Fire Ants[8] Japanese Beetle (Adult) Mole Cricket (Adult)[9] Mole Cricket (Nymph)[10] Stink Bugs Ticks[11]	0.5 - 1.0

In New York State, this product may NOT be applied to any grass or turf area within 100 feet of a water body (lake, pond, river, stream, wetland, or drainage ditch).
In New York State, do make a single repeat application of TALSTAR ONE insecticide if there are signs of renewed insect activity, but not sooner than two weeks after the first application.

Comments

[1]**Armyworms, Cutworms and Sod Webworms:** To ensure optimum control, delay watering (irrigation) or mowing for 24 hours after application. If the grass area is being maintained at a mowing height of greater than 1 inch, then higher application rates (Up to 1 fl oz per 1,000 sq ft) may be required during periods of high pest pressure.

[2]**Annual Bluegrass Weevil *(Hyperodes)* adults:** Applications should be timed to control adult weevils as they leave their overwintering sites and move into grass areas. This movement generally begins when Forsythia is in full bloom and concludes when flowering dogwood *(Cornus florida)* is in full bloom. Consult your State Cooperative Extension Service for more specific information regarding application timing.

[3]**Billbug adults:** Applications should be made when adult billbugs are first observed during April and May. Degree day models have been developed to optimize application timing. Consult your State Cooperative Extension Service for information specific to your region. In temperate regions, spring applications targeting billbug adults will also provide control of over-wintered chinch bugs.

[4]**Black Turfgrass Ataenius adults:** Applications should be made during May and July to control the first and second generation of black turfgrass ataenius adults, respectively. The May

application should be timed to coincide with the full bloom stage of Vanhoutte spiraea *(Spiraea vanhouttei)* and horse chestnut *(Aesculus hippocastanum)*. The July application should be timed to coincide with the blooming of Rose of Sharon *(Hibiscus syriacus)*.

[5]**Chinch Bugs:** Chinch Bugs infest the base of grass plants and are often found in the thatch layer. Irrigation of the grass area before treatment will optimize the penetration of the insecticide to the area where the chinch bugs are located. Use higher volume applications if the thatch layer is excessive or if a relatively long mowing height is being maintained. Chinch Bugs can be one of the most difficult pests to control in grasses and the higher application rates (Up to 1 fl oz per 1,000 sq ft) may be required to control populations that contain both nymphs and adults during the middle of the summer.

[6]**Mites:** To ensure optimal control of eriophyid mites, apply in combination with the labeled application rate of a surfactant. A second application, five to seven days after the first, may be necessary to achieve acceptable control.

[7]**Flea larvae:** Flea larvae develop in the soil of shaded areas that are accessible to pets or other animals. Use a higher volume application when treating these areas to ensure penetration of the insecticide into the soil. Note: if the lawn area is being treated with TALSTAR ONE insecticide at 0.25 fl oz per 1,000 sq ft for adult flea control, then the larval application rate may be achieved by increasing the application volume two- to four-fold.

[8]**Imported Fire Ants:** Control will be optimized by combining broadcast applications that will control foraging workers and newly mated fly-in queens with mound drenches that will control existing colonies. If the soil is not moist, then it is important to irrigate before application or use a high volume application. Apply broadcast treatments at 0.6 to 1 fl oz per 1,000 sq ft. Use enough finished volume to penetrate thatch or sod. Treat mounds by applying 1 oz TALSTAR ONE insecticide per mound in 1 to 2 gallons water by sprinkling the mound until it is wet and treat 3 feet out around the mound. Use the higher volume for mounds larger than 12”. Treat mounds with sufficient force to break their apex and allow the insecticide solution to flow into the ant tunnels. For best results, apply in cool weather (65 - 80˚F) or in early morning or late evening hours.

[9]**Mole Cricket adults:** Achieving acceptable control of adult mole crickets is difficult because preferred grass areas are subject to continuous invasion during the early spring by this extremely active stage. Applications should be made as late in the day as possible and should be watered in with up to 0.5 inches of water immediately after treatment. If the soil is not moist, then it is important to irrigate before application to bring the mole crickets closer to the soil surface where contact with the insecticide will be maximized. Grass areas that receive pressure from adult mole

crickets should be treated at peak egg hatch to ensure optimum control of subsequent nymph populations (see below).

[10]**Mole Cricket nymphs:** Grass areas that received intense adult mole cricket pressure in the spring should be treated immediately prior to peak egg hatch. Optimal control is achieved at this time because young nymphs are more susceptible to insecticides and they are located near the soil surface where the insecticide is most concentrated. Control of larger, more damaging, nymphs later in the year may require both higher application rates and more frequent applications to maintain acceptable control. Applications should be made as late in the day as possible and should be watered in with up to 0.5 inches of water immediately after treatment. If the soil is not moist, then it is important to irrigate before application to bring the mole crickets closer to the soil surface where contact with the insecticide will be maximized.

[11]**Ticks (Including ticks that may transmit Lyme disease and Rocky Mountain Spotted fever):** Do not make spot applications. Treat the entire area where exposure to ticks may occur. Use higher spray volumes when treating areas with dense ground cover or heavy leaf litter. Ticks may be reintroduced from surrounding areas on host animals. Retreatment may be necessary to achieve and/or maintain control during periods of high pest pressure. Repeat application is necessary only if there are signs of renewed activity. Limit repeat application to no more than once per seven days.

Deer ticks (Ixodes sp.) have a complicated life cycle that ranges over a two year period and involves four life stages. Applications should be made in the late fall and/or early spring to control adult ticks that are usually located on brush or grass above the soil surface and in mid to late spring to control larvae and nymphs that reside in the soil and leaf litter.

American dog ticks may be a considerable nuisance in suburban settings, particularly where homes are built on land that was previously field or forest. These ticks commonly congregate along paths or roadways where humans are likely to be encountered. Applications should be made as necessary from mid-spring to early fall to control American dog tick larvae, nymphs and adults.

[12]**Crane Flies:** Treatments can be made to control early to mid-season larvae (approximately August – February) as they feed on plant crowns. Treatments made to late-season larvae (approximately March, April) may only provide suppression.

ORNAMENTALS AND TREES

For ornamental applications (including but not limited to trees, shrubs, ground covers, bedding plants, and foliage plants) apply 0.125 to 1.0 fl oz of TALSTAR ONE insecticide per 1,000 sq

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ft or 5.4 to 43.5 fl oz per 100 gallons. TALSTAR ONE insecticide may be diluted and applied in various volumes of water providing that the maximum label rate (1.0 fl oz per 1,000 square feet or 43.5 fl oz per 100 gallons.) is not exceeded. TALSTAR ONE insecticide may be applied through low volume application equipment by dilution with water or other carriers and providing that the maximum label rate (1.0 fl oz per 1,000 sq ft or 43.5 fl oz per 100 gallons) is not exceeded.

Apply the specified application rate as a full coverage foliar spray. Repeat treatment as necessary to achieve control using higher application rates as pest pressure & foliage area increases. Limit repeat application to no more than once per seven days.

Certain cultivars may be sensitive to the final spray solution. A small number of plants should be treated and observed for one week prior to application to the entire planting.

Use of an alternate class of chemistry in a treatment program is recommended to prevent or delay pest resistance.

GREENHOUSES AND INTERIORSCAPES

Use TALSTAR ONE insecticide, either alone or tank mixed with other products, including insect growth regulators, to control a wide spectrum of insects and mites on trees, shrubs, foliage plants, non-bearing fruit and nut trees, and flowers in greenhouses and interiorscapes including hotels, shopping malls, office buildings, etc.

Calculating Dilution Rates using the Ornamental and Greenhouse Application Rates Table and the TALSTAR ONE insecticide Dilution Chart (page 10): The following steps should be taken to determine the appropriate dilution of TALSTAR ONE insecticide that is required to control specific pests:

1) Identify the least susceptible target pest (the pest requiring the highest application rate for control).
2) Select an application rate in terms of fl oz of TALSTAR ONE insecticide.
3) Identify your application volume and how much spray mix you want to prepare.
4) Use the Dilution Chart to determine the appropriate volume of TALSTAR ONE insecticide that must be mixed in your desired volume of water.

Ornamental and Greenhouse Application Rates

The application rates listed in the following table will provide excellent control of the respective pests under typical conditions. However, at the discretion of the applicator, TALSTAR ONE insecticide may be applied at up to 1 fl oz per 1,000 sq ft (43.5 fl oz per 100 gallons per acre) to control each of the pest listed in this Table. The higher application rates should be used

when maximum residual control is desired.

Apply the specified rate as a full coverage foliar spray. Repeat as necessary to achieve control using higher rates as pest pressure and foliage increases.

Certain cultivars may be sensitive to the final spray solution. A small number of plants should be tested prior to application of the entire planting.

Use an alternate class of chemistry in the treatment program is recommended to prevent or delay resistance.

Pest	Application Rate TALSTAR ONE insecticide	
	Fl oz per 1,000 sq ft	Fl oz per 100 gallons
Bagworms[12] Cutworms Elm Leaf Beetles Fall Webworms Gypsy Moth Caterpillars Lace Bugs Leaf Feeding Caterpillars Tent Caterpillars	0.125 - 0.25	5.4 - 10.8
Adelgids[†] Aphids Bees Beet Armyworm Beetles[13, †] Black Vine Weevil (Adults) Brown Soft Scales Broad Mites Budworms California Red Scale (Crawlers)[13] Centipedes	0.25 - 0.5	10.8 - 21.7

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Pest	Application Rate TALSTAR ONE insecticide	
	Fl oz per 1,000 sq ft	Fl oz per 100 gallons
Cicadas Citrus Thrips Clover Mites Crickets Diaprepes (Adults) Earwigs European Red Mite Flea Beetles Fungus Gnats (Adults) Grasshoppers Japanese Beetle (Adult)† Leafhoppers Leafrollers Mealybugs Millipedes Mites Orchid Weevil Pillbugs Plant Bugs (Including Lygus spp.) Psyllids† Scale crawlers, such as California scale, San Jose scale, etc. [13] Scorpions Sowbugs Spider Mites[14] Spiders Spittlebugs†	0.25 - 0.5	10.8 - 21.7

(Continued on next page)

Pest	Application Rate TALSTAR ONE insecticide	
	Fl oz per 1,000 sq ft	Fl oz per 100 gallons
Thrips Tip Moths Treehoppers† Twig Borers[13] Wasps Weevils[13] Whiteflies	0.25 - 0.5	10.8 - 21.7
Ants Imported Fire Ants** Leafminers Pecan Leaf Scorch Mite Pine Shoot Beetle (Adults) Sawfly larvae Spider Mites[14] Stink Bugs	0.5 - 1.0	21.7 - 43.5
Mosquitoes	See Mosquito Control directions for residual control rates and information on page 17	

[12]**Bagworms:** Apply when larvae begin to hatch and spray larvae directly. Applications when larvae are young will be most effective.

[13]**Beetles†, Scale Crawlers, Twig Borers, and Weevils:** Treat trunks, stems and twigs in addition to plant foliage.

[14]**Spider Mites:** TALSTAR ONE insecticide provides optimal twospotted spider mite control when applied during spring to mid-summer. Higher application rates and/or more frequent treatments may be required for acceptable twospotted spider mite control during mid- to late-summer. The addition of a surfactant or horticultural oil may increase the effectiveness of TALSTAR ONE insecticide. Combinations of TALSTAR ONE insecticide with other registered miticides have also proven effective.

Alternately, TALSTAR ONE insecticide applications may be rotated with those of other products that have different modes of action in control programs that are designed to manage resistance by twospotted spider mites. Consult your local Cooperative Extension Service for resistance management recommendations in your region.

**For foraging ants.

†Not registered for use in California.

Attention

Prior to applying TALSTAR ONE insecticide to wood siding, especially rough wood siding, be sure to thoroughly agitate the tank mixture. Prior to treating wood siding, test a small area and allow it to dry to be sure no deposits will form. Follow the same procedure when applying to wood surfaces in direct sunlight or the heat of the day.

Application equipment that delivers low volume treatments, such as the Micro-Injector™ or Actisol™ applicators, may also be used to make crack and crevice, deep harborage, spot and surface treatments of TALSTAR ONE insecticide.

Restrictions

Do not apply this product in a way that will contact any person or pet either directly or through drift.
Do not apply a broadcast application to interior surfaces of homes.
Do not apply to pets, food crops, or sources of electricity.
Firewood is not to be burned for one month after treatment.
Use only in well ventilated areas.
Do not use on edible crops.
During any application to overhead areas within the structure, cover surfaces below with plastic sheeting or similar material, except for soil surfaces in crawlspaces.
Do not allow spray to contact food, foodstuffs, food contacting surfaces, food utensils or water supplies.
Thoroughly wash dishes and food handling utensils with soap and water if they become contaminated by application of this product.
Do not treat areas where food is exposed.
During indoor surface applications do not allow dripping or run-off to occur.
Do not allow people or pets on treated surfaces until spray has dried.
Let surfaces dry before allowing people and pets to contact surfaces.
Do not apply this product in patient rooms or in any rooms while occupied by the elderly or infirm.
Do not apply in classrooms when in use.
Do not apply when occupants are present in the immediate area in institutions such as libraries, sports facilities, etc.

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.

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BES-080609 V1.0

TALSTAR® One

Insecticide

To control pests indoors and outdoors on residential, institutional, public, commercial, and industrial buildings, greenhouses, animal confinement facilities/livestock premises, kennels, food handling establishments, and lawns, ornamentals, parks, recreational areas and athletic fields.

Provides up to 1 month residual control of house flies
Kills fleas for up to 3 months

EPA Reg. No. 101563-255 **EPA Est. No.**

Active Ingredient:	**By Wt.**
Bifenthrin*	7.9%
Other Ingredients:	92.1%
Total:	100.0%

TALSTAR® One insecticide contains 2/3 pound active ingredient per gallon.

*Cis isomers 97% minimum, trans isomers 3% maximum.

KEEP OUT OF REACH OF CHILDREN

CAUTION

D00001489
22065702B 250407AV1
Net Contents:
One Gallon

envu™

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Environmental Science U.S., LLC
5000 CentreGreen Way, Suite 400
Cary, NC 27513

Peel Back Here