UP-Star Gold Insecticide

When used as a termiticide, individuals/firms must be licensed by the state to apply termiticide products. States may have more restrictive requirements regarding qualifications of persons using this product. Consult the pest control regulatory agency of your state prior to use of this product.

For Use and Storage by Commercial Applicators to control insect pests and mites indoors, in interiorscapes and outdoors on ornamentals and lawns in landscaped areas around residential, institutional, public, commercial, and industrial buildings, parks, recreational areas and athletic fields.

Active Ingredient:
Bifenthrin* ............................................................ 7.9%
Inert Ingredients: ........................................................ 92.1%
TOTAL ........................................................................ 100.0%

UP-Star Gold Insecticide contains 2/3 pound active ingredient per gallon.

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

TOTAL .................................................................................................... 100.0%

Inert Ingredients:

Active Ingredient:
Bifenthrin* ............................................................ 7.9%

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.

HOTLINE NUMBERS

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact the National Pesticide Information Center at 1-800-858-7378 for emergency medical treatment information.

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call CHENTREC 1-800-424-9300.

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. Remove contaminated clothing and wash before reuse.

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 U-Turn®), or an in-line injector system, shirt, pants, socks, shoes and waterproof gloves are sufficient. In addition, all pesticide handlers must wear a respiratory protection device1 when working in a non-ventilated space. All pesticide handlers must wear protective eyewear when working in non-ventilated space or when applying termiticide by rodding or sub-slab injection.

1 Use one of the following Mine Safety and Health Administration (MSHA)/National Institute for Occupational Safety and Health (NIOSH) air purifying respirator types with approval number prefixes: TC-23C, TC-21C, TC-19C, TC-13F and TC-14G, or a 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.

When treating adjacent to an existing structure, the applicator must check the area to be treated, and immediately adjacent areas of the structure, for visible and accessible cracks and holes to prevent any leaks or significant exposures to persons occupying the structure. People present or residing in the structure during application must be advised to remove their pets and themselves from the structure if they see any signs of leakage. After application, the applicator is required to check for leaks. All leaks resulting in the deposition of termiticide in locations other than those prescribed on this label must be cleaned up prior to leaving the application site. Do not allow people or pets to contact contaminated areas or to reoccupy contaminated areas of the structure until the clean-up is completed.

ENVIRONMENTAL HAZARDS

This pesticide is extremely toxic to fish and aquatic invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and run-off from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters. Care should be used when spraying to avoid fish and reptile pets in/around ornamental ponds.

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 visiting the treatment area.

PHYSICAL AND CHEMICAL HAZARDS

Do not apply water-based dilutions of UP-Star Gold Insecticide to electrical conduits, motor housings, junction boxes, switch boxes or other electrical equipment because of possible shock hazard.

DIRECTIONS FOR USE

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

Do not apply by air.
Do not apply in greenhouses, 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 apply a broadcast application to interior surfaces of homes.
Zootermopsis must be correctly employed to prevent or control infestations by subter- 
spray applications to infested or susceptible wood. These techniques 
crack and crevice (void) injection, excavated soil treatment, and brush or 
To establish an effective insecticidal barrier with this product the service 
contact with soil should be treated as described below.

Index to Uses Listed on this Label  
Termiticide Uses  
Subterranean Termite Control  
Post-Construction Subterranean Termite Treatment  
Specific Pest Control Applications  
Post, Poles and Other Constructions  
Treatment of Wood in Place  
Control of Bees and Wasps Indoors  
Broadcast Treatment of Wood on Outside of Structure  
Pests Under Slabs  
Lawn and Ornamentals  
Ornamentals and Trees  
Pest Control on Outside Surfaces and Around Buildings  
Indoor Use  
Termite Control (Above Ground)  
Ant Control  
Impregnation and Application on Dry Bulk Lawn Fertilizers  

TERMITICIDE USES  
GENERAL INFORMATION ON THE USE OF THIS PRODUCT  
The use of this product prevents and controls Termite infestations in and 
around structures and constructions.  
The dilute insecticidal emulsion must be adequately dispersed in the soil 
establish a barrier between the wood and the Termites in the soil. As a 
good practice: 1) all non-essential wood and cellulose containing materi- 
als should be removed from around foundation walls, crawl spaces, and 
porches; 2) eliminate termite access to moisture by repairing faulty plumbing 
and/or construction grade. Soil around untreated structural wood in 
contact with soil should be treated as described below.

To establish an effective insecticidal barrier with this product the service 
technician must be familiar with current Termite control practices such as: 
trenching, rodding, sub-slab injection, coarse fan spraying of soil surfaces, 
crack and crevice (void) injection, excavated soil treatment, and brush or 
spray applications to infested or susceptible wood. These techniques 
must be correctly employed to prevent or control infestations by subter-
anean Termites such as: Coptotermes, Heterotermes, Reticulitermes and 
Zootermopsis. The biology and behavior of the species involved should be 
considered by the service technician in determining which control prac-
tices to use to eliminate or prevent the termite infestation.

Choice of appropriate procedures should include consideration of such vari-
able factors as the design of the structure, location of heating, ventilation, and 
air conditioning (HVAC) systems, water table, soil type, soil compaction, grade 
conditions, and location and type of domestic water supplies and utilities.

For advice concerning current control practices with relation to specific 
local conditions, consult resources in structural pest control and state 
cooperative extension and regulatory agencies.

Subterranean Termite Control  
DIRECTIONS FOR USE  
Important: Contamination of public and private water supplies must be 
avoided by following these precautions: Use anti-backflow equipment or pro-
cedures to prevent siphonage of insecticide into water supplies. Do not con-
taminated cisterns or wells. Do not treat soil that is water saturated or frozen 
or in any conditions where runoff or movement from the treatment area (site) 
is likely to occur. Consult state and local specifications for recommended dis-
tances of wells from treated areas, or if such regulations do not exist, refer to 

Note: Crawl spaces are to be considered inside of the structure.

Critical Areas: Critical areas include areas where the foundation is pene-
trated by utility services, cracks and expansion joints, bath traps and areas 
where cement constructions have been poured adjacent to the foundation 
such as stairs, patios and slab additions.

Structures with Wells/Cisterns Inside Foundations  
Structures that contain wells or cisterns within the foundation of a struc-
ture can only be treated using the following techniques:

1. Do not treat soil while it is beneath or within the foundation or along 
the exterior perimeter of a structure that contains a well or cistern. 
The treated backfill method must be used if soil is removed and treated 
outside/away from the foundation. The treated backfill technique 
is described as follows:

   a. Trench and remove soil to be treated onto heavy plastic sheeting 
   or similar material or into a wheelbarrow.
   
   b. Treat the soil at the rate of 4 gallons of dilute emulsion per 10 linear 
   feet per foot of depth of the trench, or 1 gallon per 1.0 cubic feet of 
   soil. See “Mixing Directions” section of the label. Mix thoroughly into 
   the soil taking care to contain the liquid and prevent runoff or spillage.
   
   c. After the treated soil has absorbed the diluted emulsion, replace 
   the soil into the trench.

2. Treat infested and/or damaged wood in place using an injection tech-
nique such as described in the “Control of Wood Infesting Insects” section of this label.

Structures with Adjacent Wells/Cisterns and/or Other Water Bodies  
Applicators must inspect all structures with nearby water sources such as 
wells, cisterns, surface ponds, streams, and other bodies of water and 
evaluate, at a minimum, the treatment recommendations listed below prior 
to making an application.

1. Prior to treatment, if feasible, expose the water pipe(s) coming from 
the well to the structure, if the pipe(s) enter the structure within 3 feet 
of grade.

2. Prior to treatment, applicants are advised to take precautions to limit 
the risk of applying the termitecide into subsurface drains that could 
empty into any bodies of water. These precautions include evaluating 
whether application of the termitecide to the top of the footer may 
result in contamination of the subsurface drain. Factors such as 
depth to the drain system and soil type and degree of compaction 
should be taken into account in determining the depth of treatment.

3. When appropriate (i.e., on the water side of the structure), the treat-
ed backfill technique (described above) can also be used to minimize 
offsite movement of termitecide.
Prior to using this technique near wells or cisterns, consult state, local or federal agencies for information regarding approved treatment practices in your area.

**Application Rate:** Use a 0.06% emulsion for subterranean Termites. For other pests on the label use specific listed rates.

**Mixing Directions:** Mix the termiteicide use dilution in the following manner. Fill tank 1/4 to 1/3 full. Start pump to begin by-pass agitation and place end of treating tool in tank to allow circulation through hose. Add remaining amount of UP-Star Gold Insecticide. Let pump run and allow recirculation through the hose for 2 to 3 minutes. UP-Star Gold Insecticide may also be mixed into full tanks of water, but requires substantial agitation to insure uniformity of the emulsion. To prepare a 0.06% water emulsion, ready to use, dilute 3 quarts of UP-Star Gold Insecticide with 99.25 gallons of water.

**Mixing:** For the desired application rate, use the chart below to determine the amount of UP-Star Gold Insecticide for a given volume of finished emulsion:

<table>
<thead>
<tr>
<th>Emulsion Concentration</th>
<th>Amount of UP-Star Gold Insecticide (Gallons except where noted)</th>
<th>Amount of Water</th>
<th>Desired Gallons of Finished Emulsion</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.06%</td>
<td>1 oz. 127 oz. 1</td>
<td>10 oz. 9.9</td>
<td>0.06% 1.5 qt. 49.6 2.25 qt. 74.4 3 qt. 99.25 4.5 qt. 148.8 6 qt. 198.5</td>
</tr>
<tr>
<td></td>
<td>0.12%* 2 oz. 126 oz. 10 oz. 9.9 19.5 oz. 8.9 1.5 qt. 24.6 3 qt. 49.2 4.5 qt. 73.8 6 qt. 98.5 9 qt. 147.7 3 gal. 197</td>
<td>0.12% 1 oz. 4.9 1 oz. 9.9 1.5 qt. 24.6 3 qt. 49.2 4.5 qt. 73.8 6 qt. 98.5 9 qt. 147.7 3 gal. 197</td>
<td></td>
</tr>
</tbody>
</table>

Common units of measure:
1 pint = 16 fluid ounces (oz.)
1 quart = 2 pints = 4 cups = 32 fluid ounces (oz.)

*For Termite applications, only use this rate in conjunction with the application volume adjustments as listed in the section below or in the foam or underground service application sections.

**Application Volume:** To provide maximum control and protection against termite infestation apply the specified volume of the finished water emulsion and active ingredient as set forth in the directions for use section of this label. If soil will not accept the labeled application volume, the volume may be reduced provided there is a corresponding increase in concentration so that the amount of active ingredient applied to the soil remains the same.

**Note:** Large reductions of application volume reduce the ability to obtain a continuous barrier. Variance is allowed when volume and concentration are consistent with label directed rates and a continuous barrier can still be achieved.

Where desirable for pre and post construction treatments, the volume of the 0.12% emulsion may be reduced by 1/2 the labeled volume. See Volume Adjustment Chart below.

**Note:** When volume is reduced, the hole spacing for subslab injection and soil rodding may require similar adjustment to account for lower volume dispersal of the termiteicide in the soil.

### Volume Adjustment Chart

<table>
<thead>
<tr>
<th>Rate (% emulsion)</th>
<th>0.06%</th>
<th>0.12%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume allowed:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Horizontal (gallons emulsion/10 ft.^2)</td>
<td>1.0 gallon</td>
<td>0.5 gallon</td>
</tr>
<tr>
<td>Vertical (gallons emulsion/10 lin. ft.)</td>
<td>4.0 gallons</td>
<td>2.0 gallons</td>
</tr>
</tbody>
</table>

**Pre-Construction Subterranean Termite Treatment**

**Pre-Construction Treatment:** Do NOT apply at a lower dosage and/or concentration than specified on this label for applications prior to the installation of the finished grade.

When treating foundations deeper than 4 feet, apply the termiteicide as the backfill is being replaced, or if the construction contractor fails to notify the applicator to permit this, treat the foundation to a minimum depth of 4 feet after the backfill has been installed. The applicator must trench and rod into the trench or trench along the foundation walls and around pillars and other foundation elements, at the rate prescribed from grade to a minimum depth of 4 feet. When the top of the footing is exposed, the applicator must treat the soil adjacent to the footing to a depth not to exceed the bottom of the footing. However, in no case should a structure be treated below the footing.

Effective pre-construction subterranean Termite control is achieved by the establishment of vertical and/or horizontal insecticidal barriers using 0.06% emulsion of UP-Star Gold Insecticide. To meet Termite proofing requirements, follow the procedures in the latest edition of the Housing and Urban Development Minimum Property Standards.

**Horizontal Barriers**

Create a horizontal barrier wherever treated soil will be covered by a slab, such as footing trenches, slab floors, carports, and the soil beneath stairs and crawl spaces.

For a 0.06% rate apply 1 gallon of dilution per 10 square feet, or use 1 fluid ounce of UP-Star Gold Insecticide per 10 square feet in sufficient water (no less than 1/2 gallon or more than 2 gallons) to provide thorough and continuous coverage of the area being treated.

If the fill is washed gravel or other coarse material, it is important that a sufficient amount of dilution be used to reach the soil substrate beneath the coarse fill.

Applications shall be made by a low pressure spray (less than 50 p.s.i.) using a coarse spray nozzle. If slab will not be poured the same day as treatment, cover treated soil with a waterproof barrier such as polyethylene sheeting. This is not necessary if foundation walls have been installed around the treated soil.

**Vertical Barriers**

Vertical barriers must be established in areas such as around the base of foundations, plumbing, utility entrances, back-filled soil against foundation walls and other critical areas.

For a 0.06% rate, apply 4 gallons of dilution per 10 linear feet per foot of depth or 4 fluid ounces of UP-Star Gold Insecticide per 10 linear feet per foot of depth from grade to top of footing in sufficient water (not less than 2 gallons or more than 8 gallons) to ensure complete coverage.

- a. When trenching and rodding into the trench, or trenching, it is important that emulsion reaches the top of the footing. Rod holes must be spaced so as to achieve a continuous termiteidice barrier, but in no case more than 12 inches apart.
- b. Care should be taken to avoid soil wash-out around the footing.
- c. Trenches need not be wider than 6 inches. Emulsion should be mixed with the soil as it is being replaced in the trench.
- d. For a monolithic slab, an inside vertical barrier may not be required. Hollow block voids may be treated at a rate of 2 gallons of emulsion per 10 linear feet so that the emulsion will reach the top of the footing.

Prior to each application, applicators must notify the general contractor, construction superintendent, or similar responsible party, of the intended termiteidice application and intended sites of application and instruct the responsible person to notify construction workers and other individuals to leave the area to be treated during application and until the termiteicide is absorbed into the soil.
Post Construction Subterranean Termite Treatments

After Treatment: All holes in commonly occupied areas into which UP-Star Gold Insecticide has been applied must be plugged. Plugs must be of non-cellulose material or covered by an impervious, non-cellulose material. Use a 0.06% emulsion for post-construction treatment. Post-construction soil applications shall be made by injection, trenching and rodding into the trench, or trenching or coarse fan spray with pressures not exceeding 25 p.s.i. at the nozzle. Treatment should be taken to avoid soil wash-out around the footing.

Do not apply emulsion until location of wells, radiant heat pipes, water and sewer lines and electrical conduits are known and identified. Caution must be taken to avoid puncturing and injection into these elements.

Foundations: For applications made after the final grade is installed, the applicator must trench and rod into the trench or trench along the foundation walls and around pillars and other foundation elements, at the rate prescribed from grade to the top of the footing. When the footing is more than four (4) feet below grade, the applicator must trench and rod into the trench or trench along the foundation walls at the rate prescribed to a minimum depth of four feet. The actual depth of treatment will vary depending on soil type, degree of compaction, and location of termite activity. However, in no case should a structure be treated below the footer. Sub-slab injection is prohibited, rodding may be used. When the top of the footing is exposed, the applicator must treat the soil adjacent to the footing to a depth not to exceed the bottom of the footing. Furthermore, in no case should a structure be treated below the footing.

Inaccessible Crawl Spaces: For inaccessible interior areas, such as areas where there is insufficient clearance between floor joists and surface or not dig below the bottom of the footing. Read and follow the mixing and use direction section of the label if situations are encountered where the soil will not accept the full application volume.

1. Rod holes and trenches must not extend below the bottom of the footing.
2. Rod holes must be spaced so as to achieve a continuous insecticidal barrier but in no case more than 12 inches apart.
3. Trenches must be a minimum of 6 inches deep or to the bottom of the footing, whichever is less, and need not be wider than 6 inches. When trenching in sloping (tiered) soil, the trench must be stepped to ensure adequate distribution and to prevent termite from running off. The emulsion must be mixed with the soil as it is replaced in the trench.
4. When treating plenums or crawl spaces, turn off the air circulation system of the structure until application has been completed and all termicide has been absorbed by the soil.

Slabs
Vertical barriers may be established by sub-slab injection within the structure and trenching and rodding into the trench, or trenching outside at the rate of 4 gallons of emulsion per 10 linear feet per foot of depth. Special care must be taken to distribute the treatment evenly. Treatment should not extend below the bottom of the footing.

Basements
Where the footing is greater than 1 foot of depth from grade to the bottom of the foundation, application must be made by trenching and rodding into the trench, or trenching at the rate of 4 gallons of emulsion per 10 linear feet per foot of depth. When the footing is more than four feet below grade, the applicator may trench and rod into the trench, or trench along foundation walls at the rate prescribed for four feet of depth. The actual depth of treatment will vary depending on soil type, degree of compaction, and location of termite activity. However, in no case should a structure be treated below the footer. Sub-slab injection may be necessary along the inside of foundation walls, along cracks and partition walls, around pipes, conduits, piers, and along both sides of interior footing-supported walls.

Accessible Crawl Spaces: For crawl spaces, apply vertical termicide barriers at the rate of 4 gallons of emulsion per 10 linear feet per foot of depth from grade to the top of the footing, or if the footing is more than 4 feet below grade, to a minimum depth of 4 feet. Apply by trenching and rodding into the trench, or trenching. Treat both sides of foundation and around all piers and pipes. Where physical obstructions such as concrete walkways adjacent to foundation elements prevent trenching, treatment may be made by rodding alone. When soil type and/or conditions make trenching prohibitive, rodding may be used. When the top of the footing is exposed, the applicator must treat the soil adjacent to the footing to a depth not to exceed the bottom of the footing. Read and follow the mixing and use direction section of the label if situations are encountered where the soil will not accept the full application volume.

1. Rod holes and trenches must not extend below the bottom of the footing.
2. Rod holes must be spaced so as to achieve a continuous insecticidal barrier but in no case more than 12 inches apart.
3. Trenches must be a minimum of 6 inches deep or to the bottom of the footing, whichever is less, and need not be wider than 6 inches. When trenching in sloping (tiered) soil, the trench must be stepped to ensure adequate distribution and to prevent termite from running off. The emulsion must be mixed with the soil as it is replaced in the trench.
4. When treating barriers or partitions, turn off the air circulation system of the structure until application has been completed and all termicide has been absorbed by the soil.

Masonry Voids: Drill and treat voids in multiple masonry elements of the structure extending from the structure to the soil in order to create a continuous treatment barrier in the area to be treated. Apply at the rate of 2 gallons of emulsion per 10 linear feet of footing, using a nozzle pressure of less than 25 p.s.i. and a coarse application nozzle (e.g., Delavan Type RD Raindrop, RD-7 or larger, or Spraying Systems Co. 8010LP TeeJet or comparable nozzle). For an area that cannot be reached with the application wand, use one or more extension rods to make the application to the soil. Do not broadcast or powderspray with higher pressures.

Note: When treating behind veneer care should be taken not to drill into the veneer. If concrete blocks are behind the veneer, both the blocks and the veneer may be drilled and treated at the same time.

Excavation Technique: If treatment must be made in difficult situations, along fieldstone or rubble walls, along faulty foundation walls, and around
pipes and utility lines which lead downward from the structure to a well or pond, application may be made in the following manner:

a. Trench and remove soil to be treated onto heavy plastic sheeting or similar material.

b. Treat the soil at the rate of 4 gallons of emulsion per 10 linear feet per foot of depth of the trench. Mix the emulsion thoroughly into the soil taking care to prevent liquid from running off the liner.

c. After the treated soil has absorbed the liquid emulsion, replace the soil in the trench.

Attention: When applying UP-Star Gold Insecticide in a confined area, the user should wear unvented goggles and a MSHA/NIOSH approved respirator during application.

Foam Applications
UP-Star Gold Insecticide emulsion, from 0.06 to 0.12 % may be converted to a foam with expansion characteristics from 2 to 40 times.

Localized Application
Foam Applications: The emulsion may be converted to a foam and the foam used to control or prevent termite infestations.

Depending on the circumstances, foam applications may be used alone or in combination with liquid emulsion applications. Applications may be made behind veneers, piers, chimney bases, into rubble foundations, into block voids or structural voids, under slabs, stoops, porches, or to the soil in crawlspaces, and other similar voids.

Foam and liquid application must be consistent with volume and active ingredient instructions in order to insure proper application has been made. The volume and amount of active ingredient are essential to an effective treatment. At least 75% of the labeled liquid emulsion volume of product must be applied, with the remaining percent delivered to appropriate areas using foam application. Refer to label and use recommendations of the foam manufacturer and the foaming equipment manufacturer. Foam applications are generally a good supplement to liquid treatments in difficult areas, but may be used alone in difficult spots.

Application Under Slabs or to Soil in Crawlspaces to Prevent or Control Termites
Application may be made using UP-Star Gold Insecticide foam alone or in combination with liquid emulsion. The equivalent of at least 4 gallons (4 ounces of UP-Star Gold Insecticide concentrate) of 0.06% emulsion per 10 linear feet (vertical barrier), or at least 1 gallon (1 ounce of UP-Star Gold Insecticide concentrate) of 0.06% emulsion per 10 square feet (horizontal barrier) must be applied either as emulsion, foam, or a combination of both. For a foam only application, apply UP-Star Gold Insecticide concentrate in sufficient foam concentration and foam volume to deposit 4 ounces of concentrate per 10 linear feet or 1 ounce of concentrate per 10 square feet. For example, 2 gallons of 0.12% emulsion generated as foam to cover 10 linear feet is equal to the application of 4 gallons of 0.06% emulsion per 10 linear feet.

Sand Barrier Installation and Treatment
Termites can build mud tubes over treated surfaces as long as they have access to untreated soil and do not have to move UP-Star Gold Insecticide treated soil. Fill in cracks and spaces with builder’s or play box sand and treat the sand with UP-Star Gold Insecticide. The sand should be treated as soil following the termitecide rate listed on the UP-Star Gold Insecticide label.

Retreatment for subterranean termites can only be performed if there is clear evidence of reinfestation or disruption of the barrier due to construction, excavation, or landscaping and/or evidence of the breakdown of the termitecide barrier in the soil. These vulnerable or reinfested areas may be retreated in accordance with application techniques described in this product’s labeling. The timing and type of these retreatments will vary depending on factors such as termite pressure, soil types, soil conditions and other factors which may reduce the effectiveness of the barrier.

Annual retreatment of the structure is prohibited unless there is clear evidence that reinfestation or barrier disruption has occurred.

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% UP-Star Gold Insecticide emulsion to prevent attack by Termites and Ants.

Apply 2 gallons of emulsion per 10 linear feet to the bottom of the trench 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% UP-Star Gold 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 service protrudes from the ground may be treated by trenching/rodging of no more than 1 to 2 gallons of emulsion into the soil.

Precautions:
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% emulsion.

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 emulsion per foot of depth for poles and posts less than six inches in diameter. For larger poles, use 1.5 gallons of emulsion 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 Termites, 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% emulsion 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 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 injection of the emulsion 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.

Termite carton nests in trees or building voids may be injected with 0.06% emulsion. Multiple injection points to varying depths may be necessary. It is desirable to physically remove carton nest material from building voids when such nests are found.

Control of Bees and Wasps Indoors
To control Bees, Wasp, Hornets, and Yellow-Jackets apply a 0.06% emulsion. Application should be made in the late evening when insects are at rest. 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.

Important: Do not apply emulsion 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. 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.
During any overhead applications to overhead interior areas of structures, cover surfaces below with plastic sheeting or similar materials (except for soil surfaces in crawl spaces).

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.

Do not use in food/feed areas of food/feed handling establishments, restaurants or other areas where food/feed is commercially prepared or processed. Do not use in serving areas while food is exposed or facility is in operation. Serving areas are areas where prepared foods are served such as dining rooms but excluding areas where food may be prepared or held. Non-food/feed areas of food/feed handling establishments are areas such as garbage rooms, lavatories, floor drains (to sewers) entries and vestibules, offices, locker rooms, machine rooms, boiler rooms, garages, mop closets and storage (after bottling or canning).

In the home, cover all food handling surfaces and cover or remove all food and cooking utensils, or wash thoroughly after treatment.

Not for use in Federally Inspected Meat and Poultry Plants.

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

Apply a 0.06% emulsion with a fan spray using a maximum pressure of 25 psi. Treatment should be made just to the point of run-off.

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% emulsion. 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% to 0.12% emulsion per 10 square feet or 2 gallons of emulsion per 10 linear feet.

**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 UP-Star Gold Insecticide:

\[
\text{Percent Active Ingredient of spray mix} = \frac{\text{Fl. Oz. of UP-Star Gold Insecticide added to tank}}{\text{Gallons of finished spray mix}} \times 100
\]

**LAWN AND ORNAMENTALS**

**GENERAL APPLICATION INSTRUCTIONS**

Not for use on plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes. For use on plants intended only for aesthetic purposes or climatic modifications and being grown in interior plantscapes, ornamental gardens or parks, or lawns and grounds.

UP-Star Gold Insecticide formulation mixes readily with water and other aqueous carriers, and controls a wide spectrum of insects and mites on trees, shrubs, foliage plants, non-bearing fruit and nut trees, and flowers in interior spaces 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.

UP-Star Gold Insecticide may be tank-mixed with other pesticides, including insect growth regulators. When tank mixing UP-Star Gold Insecticide with other pesticides, observe all precautions and limitations on each separate product label. The physical compatibility of UP-Star Gold 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.

**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.

**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 UP-Star Gold Insecticide:

\[
\text{Percent Active Ingredient of spray mix} = \frac{\text{Fl. Oz. of UP-Star Gold Insecticide added to tank}}{\text{Gallons of finished spray mix}} \times 100
\]

In the State of New York, for application uses outdoors on ornamentals and lawns in landscaped areas around residential, institutional, public, commercial and industrial buildings, parks, recreational areas and athletic fields:

**The Following Precautionary Measures Must be Obeyed.**

A 100 foot buffer must be maintained between the application site and waters of the State. A 100 foot buffer is required for all waters except those entirely privately owned with no outlet to State waters. The buffer must consist of well maintained, established vegetation (i.e. grass, etc.) growth and must be maintained to prevent the development of channels.

In New York State, do make a single repeat application of this product if there are signs of renewed insect activity, but no sooner than two weeks after the first application.

**APPLICATION RECOMMENDATIONS**

**LAWNS:** Apply UP-Star Gold Insecticide as a broadcast treatment. Use application volumes of up to 10 gallons per 1,000 square feet to get uniform coverage when treating dense grass foliage.

For low volume applications, less than 2 gallons/1,000 square feet, 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, UP-Star Gold Insecticide may be applied at up to 1 fluid oz. per 1,000 square feet to control each of the pests listed in this Table. The higher application rates should be used when maximum residual control is desired.
**PEST** | **APPLICATION RATE OF UP-STAR GOLD INSECTICIDE**
---|---
Armyworms¹ | 0.18 – 0.25 fluid oz. per 1,000 sq. ft.
Cutworms¹ | 0.25 – 0.5 fluid oz. per 1,000 sq. ft.
Sod Webworm¹ | 0.5 – 1.0 fluid oz. per 1,000 sq. ft.
Annual Bluegrass Weevil *(Hyperodes)* (Adult)⁵ | 0.18 – 0.25 fluid oz. per 1,000 sq. ft.
Banks Grass Mite⁶ | 0.25 – 0.5 fluid oz. per 1,000 sq. ft.
Billbugs (Adult)³ | 0.5 – 1.0 fluid oz. per 1,000 sq. ft.
Black Turfgrass Ataenius (Adult)⁴ | 65 – 80°F or in early morning or late evening hours. Note: a spray rig that is calibrated to apply 1 fluid oz. per 1,000 square feet of UP-Star Gold Insecticide in 5 gallons per 1,000 square feet contains the approximate dilution (1 teaspoon per gallon) that is required for fire ant mound drenches in the spray tank.
Centipedes | 7
Chinch Bugs⁵ | 8
Crickets | 9
Earwigs | 10
Fleas (Adult) | 11
Grashoppers | 12
Leafhoppers | 13
Meadlybugs | 14
Millipedes | 15
Mites⁶ | 16
Pillbugs | 17
Sowbugs | 18

¹Armyworms, 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 fluid oz. per 1,000 square feet) may be required during periods of high pest pressure.

²Annual 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.

³Billbug 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 targetingbillbug adults will also provide control of overwintered chinch bugs.

⁴Black 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 spirea (*Spirea vanhouttei*) and horse chestnut (*Aesculus hippocastanum*). The July application should be timed to coincide with the blooming of Rose of Sharon (*Hibiscus syriacus*).

⁵Chinch 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 fluid oz. per 1,000 square feet) may be required to control populations that contain both nymphs and adults during the middle of the summer.

⁶Mites: 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.

⁷Flea 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 UP-Star Gold Insecticide at 0.25 fluid oz. per 1,000 square feet for adult flea control, then the larval application rate may be achieved by increasing the application volume two- to four-fold.

⁸Imported 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. Broadcast treatments should apply 1 fluid oz. per 1,000 square feet. Mounds should be treated by diluting 1 teaspoon of UP-Star Gold Insecticide per gallon of water and applying 1 to 2 gallons of finished spray per mound. The mounds should be treated with sufficient force to break their apex and allow the insecticide solution to flow into the ant tunnels. A four foot diameter circle around the mound should also be treated. For best results, apply in cool weather (65 – 80°F) or in early morning or late evening hours. Note: a spray rig that is calibrated to apply 1 fluid oz. per 1,000 square feet of UP-Star Gold Insecticide in 5 gallons per 1,000 square feet contains the approximate dilution (1 teaspoon per gallon) that is required for fire ant mound drenches in the spray tank.

⁹Mole 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).

¹⁰Mole 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.

¹¹Ticks (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 re-introduced 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. Repeat application should be limited to no more than once per seven days.

¹²Deer 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.
**UP-Star Gold Insecticide Lawn Dilution Chart**

<table>
<thead>
<tr>
<th>Application Volume:</th>
<th>Application Rate:</th>
<th>Fluid Ounces* of UP-Star Gold Insecticide Diluted to these Volumes of Finished Spray</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gallons per 1,000 Sq. Ft.</td>
<td>Fluid Ounces per 1,000 Sq. Ft.</td>
<td>1 Gallon</td>
</tr>
<tr>
<td>1.0</td>
<td>0.18</td>
<td>0.18</td>
</tr>
<tr>
<td>1.0</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>1.0</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>2.0</td>
<td>0.18</td>
<td>0.13</td>
</tr>
<tr>
<td>2.0</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>2.0</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>2.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>3.0</td>
<td>0.18</td>
<td>0.17</td>
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<tr>
<td>3.0</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>3.0</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>3.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>4.0</td>
<td>0.18</td>
<td>0.33</td>
</tr>
<tr>
<td>4.0</td>
<td>0.25</td>
<td>0.63</td>
</tr>
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<td>0.5</td>
<td>1.0</td>
</tr>
<tr>
<td>4.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>5.0</td>
<td>0.18</td>
<td>0.45</td>
</tr>
<tr>
<td>5.0</td>
<td>0.25</td>
<td>0.63</td>
</tr>
<tr>
<td>5.0</td>
<td>0.5</td>
<td>0.36</td>
</tr>
<tr>
<td>5.0</td>
<td>1.0</td>
<td>0.72</td>
</tr>
<tr>
<td>6.9</td>
<td>0.18</td>
<td>—</td>
</tr>
<tr>
<td>6.9</td>
<td>0.25</td>
<td>—</td>
</tr>
<tr>
<td>6.9</td>
<td>0.5</td>
<td>0.18</td>
</tr>
<tr>
<td>6.9</td>
<td>1.0</td>
<td>0.36</td>
</tr>
</tbody>
</table>

*To convert to milliliters, multiply by 29.57.

1 fluid oz. = 29.57 ml = 2 tablespoons = 6 teaspoons
Do not use household utensils to measure UP-Star Gold Insecticide.

**ORNAMENTALS AND TREES**

Not for use on plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes. For use on plants intended only for aesthetic purposes or climatic modifications and being grown in interior plantscapes, ornamental gardens or parks, or lawns and grounds.

For ornamental applications (including but not limited to trees, shrubs, ground covers, bedding plants, and foliage plants) apply 0.125 to 1.0 fluid oz. of UP-Star Gold Insecticide per 1,000 square feet or 5.4 to 43.5 fluid oz. per 100 gallons. UP-Star Gold Insecticide may be diluted and applied in various volumes of water providing that the maximum label rate (1.0 fluid oz. per 1,000 square feet or 43.5 fluid oz. per 100 gallons) is not exceeded. UP-Star Gold 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 fluid oz. per 1,000 square feet or 43.5 fluid 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 and foliage area increases. Repeat application should be limited 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.

**UP-Star Gold Insecticide Ornamental Dilution Chart**

<table>
<thead>
<tr>
<th>Application Volume:</th>
<th>Application Rate:</th>
<th>Application Rate:</th>
<th>Fluid Ounces* of UP-Star Gold Insecticide Diluted to these Volumes of Finished Spray</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gallons per 1,000 Sq. Ft.</td>
<td>Fluid Ounces per 1,000 Sq. Ft.</td>
<td>1 Gallon</td>
<td>5 Gallons</td>
</tr>
<tr>
<td>2.3</td>
<td>100</td>
<td>0.125</td>
<td>0.11</td>
</tr>
<tr>
<td>2.3</td>
<td>100</td>
<td>0.25</td>
<td>0.22</td>
</tr>
<tr>
<td>2.3</td>
<td>100</td>
<td>0.5</td>
<td>0.44</td>
</tr>
<tr>
<td>4.6</td>
<td>200</td>
<td>0.125</td>
<td>—</td>
</tr>
<tr>
<td>4.6</td>
<td>200</td>
<td>0.25</td>
<td>—</td>
</tr>
<tr>
<td>4.6</td>
<td>200</td>
<td>0.5</td>
<td>0.11</td>
</tr>
<tr>
<td>4.6</td>
<td>200</td>
<td>1.0</td>
<td>0.22</td>
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<tr>
<td>6.9</td>
<td>300</td>
<td>0.125</td>
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<tr>
<td>6.9</td>
<td>300</td>
<td>0.25</td>
<td>—</td>
</tr>
<tr>
<td>6.9</td>
<td>300</td>
<td>0.5</td>
<td>—</td>
</tr>
<tr>
<td>6.9</td>
<td>300</td>
<td>1.0</td>
<td>0.15</td>
</tr>
</tbody>
</table>

*To convert to milliliters, multiply by 29.57.

300 gallons per acre is a typical application volume for landscape ornamental applications.
Calculating Dilution Rates using the Ornamental Application Rates Table and the UP-Star Gold Insecticide Ornamental Dilution Chart:
The following steps should be taken to determine the appropriate dilution of UP-Star Gold 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 fluid oz. of UP-Star Gold Insecticide.
3) Identify your application volume and how much spray mix you want to prepare.
4) Use the Ornamental Dilution Chart to determine the appropriate volume of UP-Star Gold Insecticide that must be mixed in your desired volume of water.

For example, suppose you are trying to control black vine weevil adults on rhododendron. The Ornamental Application Rates table shows that 0.25 to 0.5 fluid oz. of UP-Star Gold Insecticide should be applied per 1,000 square feet because maximum residual control is desired. Your application volume is approximately 300 gallons per acre, which is equivalent to 6.9 gallons per 1,000 square feet. Consulting the Ornamental Dilution Chart reveals that you should dilute 0.72 fluid oz. of UP-Star Gold Insecticide in 10 gallons of water.

In the State of New York, for application uses outdoors on ornamentals and lawns in landscaped areas around residential, institutional, public, commercial and industrial buildings, parks, recreational areas and athletic fields:

The Following Precautionary Measures Must be Obeyed.
A 100 foot buffer must be maintained between the application site and waters of the State. A 100 foot buffer is required for all waters except those entirely privately owned with no outlet to State waters. The buffer must consist of well maintained, established vegetation (i.e. grass, etc.) growth and must be maintained to prevent the development of channels.

In New York State, do make a single repeat application of this product if there are signs of renewed insect activity, but not sooner than two weeks after the first application.

ORNAMENTAL 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, UP-Star Gold Insecticide may be applied at up to 1 fluid oz. per 1,000 square feet (43.5 fluid oz. per 100 gallons) to control each of the pests listed in this Table. The higher application rates should be used when maximum residual control is desired.

<table>
<thead>
<tr>
<th>PEST</th>
<th>Application Rate UP-Star Gold Insecticide</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fluid Ounces per 1,000 Square Feet</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>Black Vine Weevil (Adults)</td>
<td>0.25 – 0.5</td>
</tr>
<tr>
<td>Brown Soft Scales</td>
<td></td>
</tr>
<tr>
<td>Broad Mites</td>
<td></td>
</tr>
<tr>
<td>Budworms</td>
<td></td>
</tr>
<tr>
<td>California Red Scale (Crawlers)</td>
<td></td>
</tr>
<tr>
<td>Centipedes</td>
<td></td>
</tr>
<tr>
<td>Cicadas</td>
<td></td>
</tr>
<tr>
<td>Citrus Thrips</td>
<td></td>
</tr>
<tr>
<td>Clover Mites</td>
<td></td>
</tr>
<tr>
<td>Crickets</td>
<td></td>
</tr>
<tr>
<td>Diaprepes (Adults)</td>
<td></td>
</tr>
<tr>
<td>Earwigs</td>
<td></td>
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<tr>
<td>European Red Mite</td>
<td></td>
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<tr>
<td>Flea Beetles</td>
<td></td>
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<tr>
<td>Fungus Gnats (Adults)</td>
<td></td>
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<tr>
<td>Grasshoppers</td>
<td></td>
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<tr>
<td>Japanese Beetle (Adults)</td>
<td></td>
</tr>
<tr>
<td>Leafhoppers</td>
<td></td>
</tr>
<tr>
<td>Leafrollers</td>
<td></td>
</tr>
<tr>
<td>Mealybugs</td>
<td></td>
</tr>
<tr>
<td>Millipedes</td>
<td></td>
</tr>
<tr>
<td>Mites</td>
<td></td>
</tr>
<tr>
<td>Mosquitoes</td>
<td></td>
</tr>
<tr>
<td>Orchid Weevil</td>
<td></td>
</tr>
<tr>
<td>Pillbugs</td>
<td></td>
</tr>
<tr>
<td>Pine Needle Scales (Crawlers)</td>
<td></td>
</tr>
<tr>
<td>Plant Bugs (including Lygus spp.)</td>
<td></td>
</tr>
<tr>
<td>Psyllids</td>
<td></td>
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<tr>
<td>San Jose Scales (Crawlers)</td>
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<tr>
<td>Scorpion</td>
<td></td>
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<tr>
<td>Sowbugs</td>
<td></td>
</tr>
<tr>
<td>Spider Mites</td>
<td></td>
</tr>
<tr>
<td>Spiders</td>
<td></td>
</tr>
<tr>
<td>Spittlebugs</td>
<td></td>
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<tr>
<td>Thrips</td>
<td></td>
</tr>
<tr>
<td>Tip Moths</td>
<td></td>
</tr>
<tr>
<td>Treehoppers</td>
<td></td>
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<tr>
<td>Twig Borers (Crawlers)</td>
<td></td>
</tr>
<tr>
<td>Wasps</td>
<td></td>
</tr>
<tr>
<td>Weevils (Crawlers)</td>
<td></td>
</tr>
<tr>
<td>Whiteflies</td>
<td></td>
</tr>
<tr>
<td>Imported Fire Ants**</td>
<td>0.5 – 1.0</td>
</tr>
<tr>
<td>Leafminers</td>
<td></td>
</tr>
<tr>
<td>Pecan Leaf Scorch Mite</td>
<td></td>
</tr>
<tr>
<td>Pine Shoot Beetle (Adults)</td>
<td></td>
</tr>
<tr>
<td>Spider Mites**</td>
<td></td>
</tr>
</tbody>
</table>

**For foraging ants.

1 fluid oz. = 29.57 ml = 2 tablespoons = 6 teaspoons
Do not use household utensils to measure UP-Star Gold Insecticide.
# PEST CONTROL ON OUTSIDE SURFACES AND AROUND BUILDINGS

For control of Ants, Carpenter Ants, Fire Ants, Armyworms, Bees, Beetles†, Biting Flies, Boxelder Bugs, Centipedes, Chiggers, Chinch Bugs, Clover Mites, Crickets, Cutworms, Dichondra Flea Beetles, Earwigs, Elm Leaf Beetles, Firebrats, Fleas, Flies, Grasshoppers, Hornets, Japanese Beetles†, Millipedes, Mosquitoes, Moths, Roaches (including Cockroaches), Scorpions, Silverfish, Sod Webworms, Sowbugs (Pillbugs), Spiders (including Black Widow Spiders), Springtails, Ticks (including Brown Dog Ticks), and Wasps.

† Not for use in California

Apply UP-Star Gold Insecticide using a 0.02 to 0.06% suspension 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, carparks, 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. Use a spray volume of up to 10 gallons of emulsion per 1,000 square feet. Higher application volumes may be used to obtain the desired coverage of dense vegetation or landscaping materials.

**Mixing Directions:** For 0.02% suspension, mix 0.33 fluid oz. of UP-Star Gold Insecticide per gallon of water. For 0.06% emulsion, mix 1 fluid oz. of UP-Star Gold Insecticide per gallon of water (1 fluid oz. = 2 tablespoons).

Do not use household utensils to measure UP-Star Gold 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:** Treat 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 fluid oz. of UP-Star Gold Insecticide per 1,000 square feet in sufficient water to provide adequate coverage (refer to Perimeter Application Dilution Chart).

**For Ant and Fire Ant Mounds use UP-Star Gold Insecticide 0.06% emulsion as Drench Method:** Apply 1 to 2 gallons of emulsion to each mound area by sprinkling the mound until it is wet and treat a 4 foot diameter circle around the mound. Use the higher volume for mounds larger than 12". For best results, apply in cool weather, such as in early morning or late evening hours, but not in the heat of the day.

**Mosquito Control:** Dilute 0.33 to 1.0 fluid oz. of UP-Star Gold Insecticide per gallon of water and apply at the rate of one gallon of dilution to each 1,000 square feet as a general spray around landscapes, lawn and buildings to control mosquitoes. For higher volume applications, UP-Star Gold Insecticide may be diluted at lower concentrations and applied at greater volumes to deliver the desired amount of product per area (refer to the Ornamental or Perimeter Application Dilution Charts).

## UP-Star Gold Insecticide Perimeter Application Dilution Chart

<table>
<thead>
<tr>
<th>Application Volume: Gallons per 1,000 Sq. Ft.</th>
<th>Application Rate: Fluid Ounces* of UP-Star Gold Insecticide per 1,000 Sq. Ft.</th>
<th>1 Gallon</th>
<th>5 Gallons</th>
<th>10 Gallons</th>
<th>100 Gallons</th>
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*To convert to milliliters, multiply by 29.57
1 fluid oz. = 29.57 ml = 2 tablespoons = 6 teaspoons

Do not use household utensils to measure UP-Star Gold Insecticide.
INDOOR USE

Do not use in food/feed areas of food/feed handling establishments, restaurants or other areas where food is commercially prepared or processed. Do not use in serving areas while food/feed is exposed or facility is in operation. Serving areas are areas where prepared foods are served, such as dining rooms, but excluding areas where food may be prepared or held. 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. Not for use in Federally Inspected Meat and Poultry Plants. Do not apply a broadcast application to interior surfaces of homes.

For control of Ants, Bees, Beetles, Boxelder bugs, Centipedes, Cockroaches, Crickets, Earwigs, Firebrats, Flies, Millipedes, Pillbugs, Scorpions, Silverfish, Sawbugs, Spiders, Ticks and Wasps. Use a 0.02% to 0.06% suspension (0.33 to 1 fluid 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.

Indoor Treatments: 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 undersides 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.

UP-Star Gold Insecticide is to be diluted with water for spray or brush application. Fill sprayer with the desired volume of water and add UP-Star Gold 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. Repeat application should be limited to no more than once per seven days.

Cockroaches, Crickets, Firebrats, Scorpions, Silverfish, Spiders, and Ticks: Apply as a coarse, low pressure 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 undersides 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.

Bees and Wasps: Application to nests should be made late in the evening when insects are at rest. Thoroughly spray nest and entrance and surrounding areas where insects alight.

Boxelder Bugs, Centipedes, Earwigs, Beetles, Millipedes, Pillbugs, and Sawbugs: Apply around doors and windows and other places where these pests may be found or where they may enter premises. Spray baseboards, storage areas and other locations.

Food Handling Establishments: Places other than private residences in which food is held, processed, prepared or served.

Nonfood Areas: Permitted areas of use include industrial buildings, houses, apartment buildings, laboratories, buses, and the nonfood/feed areas of stores, warehouses, vessels, railcars, trucks, trailers, aircraft (do not use in aircraft cabins), schools, nursing homes, hospitals, restaurants, hotels, food manufacturing, processing and service establishments. Permitted nonfood/feed areas are areas such as garbage rooms, lavatories, floor drains (to sewers), entries and vestibules, offices, locker rooms, machine rooms, garages, mop closets and storage (after canning or bottling). UP-Star Gold Insecticide may be used as a general spot, crack and crevice treatment in nonfood areas. All areas where insects hide or through which insects may enter should be treated.

Foam Applications

UP-Star Gold Insecticide may be converted to foam and used to treat structural voids. Dilute 0.33 to 1.0 fluid oz. of UP-Star Gold Insecticide per gallon of water and add the manufacturers recommended volume of foaming agent to produce a 0.02 to 0.06% foam concentration. Verify before treatment that the foaming agent is compatible with UP-Star Gold Insecticide.

TERMITE CONTROL (ABOVE GROUND ONLY)

The purpose of the applications described below is to kill termite workers or winged reproductives that may be present at the time of treatment. These applications are intended as supplements to, and not substitutes for, mechanical alteration, soil treatment or foundation treatment.

To control exposed workers and winged reproductive termites in localized areas, dilute 1.0 fluid oz. of UP-Star Gold Insecticide per gallon of water and apply as a coarse fan spray at the rate of one gallon per 1,000 square feet to attics, crawl spaces, unfinished basements and other void areas. Treat swarming termites as well as the areas in which they congregate.

To control above-ground termites in localized areas of infested wood, dilute 1.0 fluid oz. of UP-Star Gold Insecticide per gallon of water and apply as a liquid or foam to voids and galleries in damaged wood as well as to spaces between wooden structural members and between the sill plate and foundation where wood is vulnerable to attack. Applications may be made to inaccessible areas by drilling and then injecting the dilution or foam with a suitable directional injector, into damaged wood or wall voids. All treatment holes drilled in construction elements in commonly occupied areas of structures should be securely plugged after treatment.

To control termite carton nests in building voids, dilute 1.0 fluid oz. of UP-Star Gold Insecticide per gallon of water and apply at the rate of one gallon of dilution per 1,000 square feet as a general surface, 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 UP-Star Gold Insecticide in combination with baits, apply UP-Star Gold Insecticide as instructed above, and use baits in other areas that have not been treated with UP-Star Gold Insecticide.

ANT CONTROL

Nuisance Ants Indoors: For best results, locate and treat ant nests. Dilute 0.5 to 1.0 fluid oz. of UP-Star Gold Insecticide per gallon of water and apply at the rate of one gallon of dilution per 1,000 square feet as a general surface, 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 UP-Star Gold Insecticide in combination with baits, apply UP-Star Gold Insecticide as instructed above, and use baits in other areas that have not been treated with UP-Star Gold Insecticide.

Nuisance Ants Outdoors: For best results, locate and treat ant nests. Apply UP-Star Gold 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:

1) Treat non-porous surfaces with low volume applications using 0.5 to 1.0 fluid oz. of UP-Star Gold Insecticide per gallon of water and applying this dilution at the rate of one gallon per 1,000 square feet.

2) Treat porous surfaces and vegetation with high volume applications using dilutions that are calculated to deliver 0.5 to 1.0 fluid oz. of UP-Star Gold Insecticide per 1,000 square feet (refer to the Ornamental and Perimeter Application Dilution Charts).

3) For maximum residual control, dilute 0.5 to 1.0 fluid oz. of UP-Star Gold Insecticide per gallon of water and apply at a rate of up to 10 gallons of dilution per 1,000 square feet.
Gold Insecticide applied in water. Applied as directed, UP-Star Gold Insecticide/dry bulk fertilizer mixtures

Carpenter Ants Indoors: Apply UP-Star Gold Insecticide as instructed above, and use baits in other holes and spray, mist or foam into voids where carpenter ants or their nests are present. When using UP-Star Gold Insecticide in combination with baits, apply UP-Star Gold Insecticide as instructed above, and use baits in other areas that have not been treated with UP-Star Gold Insecticide.

Carpenter Ants Outdoors: Apply UP-Star Gold 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 carpenter ant control. Maximum control is generally achieved using the following procedure:

1) Treat non-porous surfaces with low volume applications using 0.5 to 1.0 fluid oz. of UP-Star Gold Insecticide per gallon of water and applying this dilution at the rate of one gallon per 1,000 square feet.

2) Treat the trunks of trees that have carpenter ant trails, or upon which carpenter ants are foraging, using 0.5 to 1.0 fluid oz. of UP-Star Gold 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 using dilutions that are calculated to deliver 0.5 to 1.0 fluid oz. of UP-Star Gold Insecticide per 1,000 square feet. (Refer to the Ornamental and Perimeter Application Dilution Charts).

4) For maximum residual control, dilute 0.5 to 1.0 fluid oz. of UP-Star Gold Insecticide per gallon of water and apply at a rate of up to 10 gallons of dilution per 1,000 square feet.

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 fluid oz. of UP-Star Gold Insecticide per gallon of water) into the cavity using a sufficient volume and an appropriate treatment tool with a splash back guard.

To control carpenter ants that are tunneling in the soil, dilute 0.5 to 1.0 fluid ounces of UP-Star Gold 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.

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

To protect firewood from carpenter ants, dilute 1.0 fluid oz. of UP-Star Gold 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 square feet. DO NOT treat firewood with this product.

IMPREGNATION AND APPLICATION OF UP-STAR Gold Insecticide ON DRY BULK LAWN FERTILIZERS

UP-Star Gold Insecticide may be impregnated on dry bulk fertilizers. When applied as directed, UP-Star Gold Insecticide/dry bulk fertilizer mixtures provide insect control equal to that provided by the same rates of UP-Star Gold Insecticide applied in water.

Impregnation: Apply using a minimum 2.3 pounds of dry bulk fertilizer per 1,000 square ft. with the recommended amount of UP-Star Gold Insecticide per 1,000 square ft. Use a closed rotary-drum mixer or a similar type of closed blender equipped with suitable spray equipment. The spray nozzle(s) should be positioned to provide a uniform, fine spray pattern over the tumbling fertilizer for thorough coverage. The physical properties of fertilizers vary, particularly in liquid absorptive capacity. When absorptivity is sufficient, simple spray impregnation of the fertilizer with UP-Star Gold Insecticide provides a satisfactory dry mixture. If the absorptive capacity is inadequate, use of a highly absorptive powder is required to provide a dry, flowable mixture. Microcel E (Johns-Manville Products Corporation) is a recommended absorbent powder. Generally less than 2% by weight of Microcel E is required. DO NOT impregnate UP-Star Gold Insecticide onto straight-coated ammonium nitrate or straight limestone because these materials will not absorb the insecticide. Dry fertilizer blends containing mixtures of ammonium nitrate or limestone may be impregnated with UP-Star Gold Insecticide.

The amount of UP-Star Gold Insecticide actually required in the preparation of individual fertilizer mixtures should be determined carefully for each production operation. This is necessary to ensure that the amount of pesticide actually contained in the mixture applied to the soil represents the correct rate of use. Bulk fertilizer impregnated with UP-Star Gold Insecticide should be applied immediately, not stored.

All individual Federal and State regulations relating to bulk dry fertilizer blending, registration, labelling, and application of the mixtures are the responsibility of the individual and/or company selling the fertilizer and UP-Star Gold Insecticide mixture.

Fertilizer for this use should be Turf fertilizers recommended for specific regions.

Attention

Do not apply this pesticide in livestock buildings (barns).

Do not apply when occupants are in the immediate area in institutions such as libraries, sports facilities, etc.

Do not apply to pets, crops, or sources of electricity.

Firewood is not to be treated.

Use only in well ventilated areas.

During any application to overhead areas of structure, cover surfaces below with plastic sheeting or similar material (except where for soil surfaces in crawl spaces).

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 apply people or pets on treated surfaces until spray has dried.

Let surfaces dry before allowing people and pets to contact surfaces.

UP-Star Gold Insecticide will not stain or damage any surface that water alone will not stain or damage.

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 general surface treatments of UP-Star Gold Insecticide.

Do not apply this pesticide when classrooms are in use.

Do not apply this pesticide in occupied patient rooms, or in any rooms occupied by the infirm, elderly or children for extended periods of time.

Distributors Should Sell in Original Packages Only.
IMPORTANT INFORMATION
READ BEFORE USING 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 should 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 United Phosphorus, Inc. or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold United Phosphorus Inc. and Seller harmless for any claims relating to such factors.

United Phosphorus, Inc. 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, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or United Phosphorus, Inc., and Buyer and User assume the risk of any such use. UNITED PHOSPHORUS, INC. MAKES NEITHER WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

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www.upi-usa.com

Rev. 4/05

UP-Star Gold Insecticide non-RUP EPA APPROVED 12-09-2003

United Phosphorus Inc.