



Town of Yountville

6550 Yount Street
Yountville, CA 94599

Staff Report

Agenda Item #: {{section.number}}{{item.number}}

Park & Recreation Advisory Commission Town Council Staff Report

DATE: March 20, 2025
TO: Parks & Recreation Advisory Commission
FROM: John Ferons, Public Works Director
PREPARED BY: John Ferons, Public Works Commission

RECOMMENDATION

Informational Report Regarding the Use of Herbicides in Town Public Parks and Facilities.

DISCUSSION/BACKGROUND

The following report shall provide a brief update on the Town's practices for applying herbicides to Town Public Parks and Facilities.

For the purposes of this report, it is beneficial to discuss some basic information on herbicide and pesticide use in the Town:

- Public Parks means all of the Town's public parks and paths.
- Facilities means the landscaped areas around the government buildings that are open to the public.
- Herbicide means a substance for mitigating plant growth, especially weeds.
- Pesticide means a substance for mitigating animal pests, such as rodents.
- Qualified Applicator Certificate means a person certified by the state to apply or supervise the application of federally restricted or state restricted herbicide materials for any purpose or on any property other than private property.
- All commercial and public agencies using herbicides and pesticides must register with the Napa County Agricultural Commissioner and each licensed applicator must also register.
- Use records are submitted to the Napa County Agricultural Commissioner's office each month with a summary of the herbicide and pesticide used.
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In 2019, the Town officially transitioned away from using Round-Up Glyphosate based products which was previously used in Town owned and operated parks, paths, and facilities. Now the Town is using a non-glyphosate-based product known as Cheetah Pro.

Cheetah Pro is a non-selective post emergent herbicide with an active ingredient, Glufosinate which inhibits the plant from releasing ammonia. Accumulation of ammonia in the plant quickly destroys plant cells and inhibits photosynthesis. Basically, the plant blows itself up internally, which means results are quick and sustainable.

Cheetah Pro, when compared to Roundup uses half the application rate, comes with a 2-to-5-day response time versus 4 to 14 days, has a half-life in soil of 7 days instead of 47 days, and only has 3 documented resistant species rather than 54 resistant species.

The Town's current practice is to post any areas to which the herbicide will be applied well in advance of the application notifying patrons of the intended use. Application times are scheduled for times when there is early in the morning when there is little to no patron traffic in the areas. All herbicide applications follow the federal, state and county rules for application under the supervision of the Town's Qualified Applicator Certified employee,

In terms of pesticides, besides the occasional can of RAID for ants or wasp, town staff does not spray for pests. Rather, the Town has a contract with Clarks Pest Control for pesticide use. In addition to manual traps used indoor for rodent control, ants are the general pest for which Clark's treats.

For ant control Clark's uses Alpine WSG which they apply as QAC on an as needed basis when the ants arrive.

Data sheets for each of the products are attached to this report.

ENVIRONMENTAL REVIEW

Exempt per California Environmental Act (CEQA) Guideline, Section 15061(b)(3)

FISCAL IMPACT

Is there a Fiscal Impact? No

Is it Currently Budgeted? N/A

Where is it Budgeted? N/A

Is it Mandatory or Discretionary? Mandatory

Is there a Staff Resource Impact? Yes

STRATEGIC PLAN GOAL

Is item Identified in Strategic Plan? Yes

If yes, Identify Strategic Goal and Objective. **Exceptional Town Services and Staff:** The Town supports its talented staff who deliver high quality municipal programs and services while maintaining public infrastructure for the benefit of the community.

Briefly Explain Relationship to Strategic Plan Goal and Objective. Using safe and efficient products in Parks and Facilities ensures attractive facilities for the public to enjoy.

ATTACHMENTS

1. Cheetah Pro Data Sheet
2. Alpine WSG Data Sheet

GLUFOSINATE GROUP 10 HERBICIDE

Cheetah® Pro

A COMPLETE BROAD SPECTRUM NONSELECTIVE POSTEMERGENCE HERBICIDE

ACTIVE INGREDIENT:

Glufosinate ammonium* 24.5%**

OTHER INGREDIENTS: 75.5%

TOTAL: 100.0%

*CAS Number 77182-82-2

**Equivalent to 2.34 pounds of active ingredient per gallon

Shake Well, Agitate or Recirculate Before Use

KEEP OUT OF REACH OF CHILDREN CAUTION

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

**SEE INSIDE BOOKLET FOR ADDITIONAL FIRST AID AND
PRECAUTIONARY STATEMENTS**

For Chemical Spill, Leak, Fire, or Exposure,
Call CHEMTREC (800) 424-9300

For Medical Emergencies Only, Call (877) 325-1840

FIRST AID

IF SWALLOWED

- Call a poison control center or doctor immediately for treatment advice.
- Have person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to do so by a poison control center or doctor.
- Do not give anything by mouth to an unconscious person.

IF ON SKIN OR CLOTHING

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15 to 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 to 20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

IF INHALED

- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.
- Call a poison control center or doctor for treatment advice.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-325-1840 for emergency medical treatment information.

NOTE TO PHYSICIAN

If this product is ingested, endotracheal intubation and gastric lavage should be performed as soon as possible, followed by charcoal and sodium sulfate administration.

EPA Reg. No. 228-743

Manufactured for
Nufarm Americas Inc.
11901 S. Austin Avenue
Alsip, IL 60803

 **Nufarm**
Grow a better tomorrow



Net Contents
2.5 Gal.
(9.46 L)
Nonrefillable Container

15484000

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin, eyes or clothing. Avoid breathing vapor. Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long sleeved shirt and long pants;
- Chemical-resistant gloves;
- Shoes and socks;
- Protective eyewear (goggles, face shield or safety glasses).

Mixers/loaders supporting aerial applications must wear a minimum of a NIOSH approved filtering face piece respirator with any N filter (TC-84A). You can also use other NIOSH approved particulate respirators that offer more protection.

Applicators using groundboom equipment with open cabs to treat cotton must wear long-sleeve shirts, long pants, shoes, and socks plus chemical-resistant gloves.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them. 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:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon possible, wash thoroughly and change into clean clothing.

ENGINEERING CONTROLS STATEMENT

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [(40 CFR 170.240(d)(4-6))], the handler PPE requirements may be reduced or modified as specified in the WPS.

ENVIRONMENTAL HAZARDS

Do not apply directly to water or to areas where surface water is present. Do not apply to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters or rinsate.

This pesticide is toxic to vascular plants and must be used strictly in accordance with the drift and run-off precautions on this label in order to minimize off-site exposures.

Under some conditions, this product may have a potential to run-off to surface water or adjacent land. Where possible, use methods which reduce soil erosion, such as no tillage to reduce pesticide run-off. Use of vegetation filter strips along rivers, creeks, streams, wetlands, etc. or on the downhill side of fields where run-off could occur to minimize water run-off is recommended.

PHYSICAL AND CHEMICAL HAZARDS

Do not mix or allow contact with oxidizing agents. Hazardous chemical reaction may occur.

Combustible. Do not use or store near heat or open flame.

DIRECTIONS FOR USE

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

Do not use this product until you have read the entire label. 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 requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

In the State of New York Only: Not for use in Nassau and Suffolk Counties.

AGRICULTURAL 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.

Restricted entry-interval (REI) 12 hours for all post-application activities.

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 worn over short-sleeved shirt and short pants;
- Chemical resistant gloves;
- Chemical resistant footwear plus socks;
- Protective eyewear (goggles, face shield or safety glasses).

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 Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, or greenhouses. Do not enter or allow others to enter treated areas until sprays have dried.

PRODUCT INFORMATION

This product may be applied for the control of undesirable plant vegetation, including emerged annual and perennial grass, sedge and broadleaf weeds in a variety of settings. This product is foliar-active with little or no activity in soil. Weeds that emerge after application will not be controlled. Necrosis of leaves and young shoots occur within 2 to 4 days after application under active growing conditions.

RESISTANCE MANAGEMENT

For resistance management, this product is a Group 10 herbicide. Any weed population may contain or develop plants naturally resistant to this product and other Group 10 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same area. Appropriate resistance management strategies should be followed.

To delay herbicide resistance take one or more of the following steps:

- Rotate the use of this product or other Group 10 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds.
- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.
- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and that considers mechanical control methods, cultural (e.g., timing to favor the turf and not the weeds), biological (weed-competitive varieties) and other management practices.
- Scout before and after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method. Prevent movement of resistant weed seeds to other areas by cleaning equipment.
- If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.
- Contact your local extension specialist or certified crop advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report non-performance or suspected resistance, contact Nufarm at 1-800-345-3330

APPLICATION METHODS

When applied as directed in this label, this herbicide controls annual and perennial weeds. Applications may be made on a broadcast, banded or spot treatment basis. Avoid direct spray or drift to desirable vegetation. Regrowth may occur due to the weed stage of growth at application, low use rate, or environmental conditions. Repeat treatments may be necessary to control plants generating from underground parts or seed.

Application Restrictions:

- **Do not** apply this product through any type of irrigation system.
- **Do not** apply directly to or allow drift to contact desirable green tissue or green, thin, or uncalloused bark of desirable vegetation.
- **Do not** allow grazing of vegetation treated with this product.

Application Precautions:

- Uniform, thorough spray coverage is necessary to achieve consistent weed control.
- This product is rainfast 4 hours after application to most weed species; therefore, rainfall within 4 hours may necessitate retreatment or may result in reduced weed control.
- Weed control may be reduced if application is made when heavy dew, fog, and mist/rain are present; or when weeds are under stress due to environmental conditions such as drought, cool temperatures, or extended periods of cloudiness.
- Plants may be safely planted into treated areas after spray has dried.

Compatibility Testing:

- If this product is to be mixed with pesticides, test the compatibility of the intended tank mixture prior to mixing the products in the spray tank. The following procedure assumes a spray volume of 25 gallons per acre. For other spray volumes, adjust the amount of the water used accordingly. Check compatibility as follows:
- Place 1 pint of water from the source that will be used to prepare the spray solution in a clear 1 quart jar.
- For each pound of a dry tank mix partner to be applied per acre, add 1.5 teaspoons to the jar.
- For each 16 fluid ounces of a liquid tank mix partner to be applied per acre, add 0.5 teaspoon to the jar.
- For each 16 fluid ounces of this product to be applied per acre, add 0.5 teaspoon to the jar.
- After adding all the ingredients, place a lid on the jar and tighten. Invert 10 times to mix.
- Let the mixture stand for 15 minutes and evaluate the solution for uniformity and stability. Look for separation, large flakes, precipitates, gels, heavy oily film on the jar, or other signs of incompatibility. If the tank mix partners are not compatible, do not use the mixture in a spray tank.
- After compatibility testing is complete, dispose of any pesticide wastes in accordance with the STORAGE AND DISPOSAL section of this label.

MIXING INSTRUCTIONS:

Tank Mix Instructions: It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. Prior to adding this product to the spray tank, ensure that the spray tank is thoroughly clean, particularly if an herbicide with the potential to injure crops was previously used (see Cleaning Instructions).

Mix this product with water to make a finished spray solution as follows:

1. Properly calibrate and clean equipment
2. Fill the spray tank half full with water.
3. Start agitation.
4. If mixing with a flowable/wettable powder tank mix partner, prepare a slurry of the proper amount of the product in a small amount of water. Add the slurry to the spray tank.
5. If hard water is a concern, add 17 lbs per 100 gallons of spray solution of ammonium sulfate (AMS) to the spray tank. No surfactant is required when applying this product.
6. If mixing with a liquid tank mix partner, add the liquid mix partner next.
7. Complete filling the spray tank with water before adding this product, as foaming may occur.
8. Add the proper amount of this product and continue agitation.
9. If foaming occurs, use a silicone-based antifoam agent.

Ensure that all spray system lines including pipes, booms, etc. have the correct concentration of spray solution by flushing out the spray system lines before starting the crop application. Maintain good agitation at all times until contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to re-suspend the mixture before spraying is resumed. Keep bypass line on or near bottom of tank to minimize foaming. Screen size in nozzles or line strainers must be 50 mesh or larger.

Cleaning Instructions:

Before using this product, thoroughly clean bulk storage tank, refillable tank, nurse tanks, spray tank, lines, and filter, particularly if an herbicide with the potential to injure crops was previously used. Thoroughly rinse equipment using a commercial tank cleaner and as instructed on the prior herbicide label.

After using this product, triple rinse the spray equipment and clean with a commercial tank cleaner before using the equipment. Make sure any rinsate or foam is thoroughly removed from spray tank and boom. Rinsate may be disposed following the pesticide disposal directions on this label.

MANDATORY SPRAY DRIFT

- When applying to crops via aerial application equipment, the spray boom must be mounted on the aircraft so as to minimize drift caused by wing tip or rotor blade vortices. The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.
- When applying to crops via aerial application equipment, applicators must use ½ swath displacement upwind at the downwind edge of the field.
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.
- Spray the appropriate boom height based on nozzle selection and nozzle spacing, but do not exceed a boom height of 24 inches above target pest or crop canopy. Set boom to lowest effective height over the target pest or crop canopy based on equipment manufacturer's directions. Automated boom height controllers are recommended with large booms to better maintain optimum nozzle to canopy height. Excessive boom height will increase the potential for spray drift.
- For aerial applications, do not release spray at a height greater than 10 feet above the crop canopy, unless a greater application height is required for pilot safety.
- For non-crop vegetation management ground applications, apply with the nozzle height no more than 4 feet above the ground or target vegetation, unless necessitated by the application equipment. Examples would include roadside, railroad, utility rights of way, forestry and other industrial vegetation management applications where safety or natural barriers obstruct application.
- For ground applications and aerial applications, select nozzle and pressure that deliver medium to coarse spray droplets as indicated in nozzle manufacturer's catalogues and in accordance with ASABE Standard 572.1.

SPRAY DRIFT ADVISORIES

POLLINATOR ADVISORY STATEMENT

This product contains an herbicide. Follow all label directions and precautions to minimize potential off-target exposure in order to prevent effects to non-target plants adjacent to the treated site which may serve as habitat or forage for pollinators.

SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.

• Importance of Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. **APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE ENVIRONMENTAL CONDITIONS!** See Wind, Temperature and Humidity, and Temperature Inversions sections of this label.

• Techniques for Controlling Droplet Size

- Volume – Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure – Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. **WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.**
- Nozzle Type – Use a nozzle type that is designed for the intended application. With most nozzle types, narrow spray angles produce larger droplets. Consider using low-drift nozzles.
- Controlling Droplet Size – Aircraft
- Number of Nozzles – Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.
- Nozzle Orientation – Orienting nozzles so that the spray is emitted backwards, parallel to the airstream will produce larger droplets than other orientations. **AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.**
- Nozzle Type – Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.
- Boom Length – Longer booms increase drift potential. Therefore a shorter boom length is recommended.
- Application height – Application more than 10 ft. above the canopy increases the potential for spray drift.
- Boom Height

Setting the boom at the lowest referenced height (if specified) which provides uniform coverage reduces the exposure of droplets to evaporation and wind. For ground equipment, the boom should remain level with the crop and have minimal bounce.

• Drift Reduction Technology (DRT)

The EPA Drift Reduction Technology (DRT) Program was developed to encourage the manufacturer, marketing, and use of spray technologies scientifically verified to significantly reduce pesticide drift. The use of DRTs should result in significantly less pesticide from spray applications drifting and being deposited in areas not targeted by those applications, compared to spray technologies that do not meet the minimum DRT standard. EPA-verified drift reduction technologies (DRTs) and their ratings will be added to the following webpage when they become available: <https://www.epa.gov/reducing-pesticide-drift/epa-verified-and-rated-drift-reduction-technologies>

- Wind

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors including droplet size and equipment type determine drift potential at any given wind speed. AVOID APPLICATIONS DURING GUSTY OR WINDLESS CONDITIONS. Note: Local terrain can influence wind patterns. Every applicator needs to be familiar with local wind patterns and how they affect spray drift.

- Temperature and Humidity

When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

- Temperature Inversions

Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

- Shielded Sprayers

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

USE SITES AND APPLICATION DIRECTIONS

When applied as directed, this product non-selectively controls undesirable plant vegetation in the following areas: airfields, airports, alleys, lanes, paths, trails, access roads, around commercial or industrial structures or outbuildings, around farm and ranch structures and outbuildings, around ornamental gardens, around ornamental trees and shrubs (including Christmas trees), bare ground, beaches*, campgrounds, construction sites, ditch banks, drive-in theaters, driveways and ramps, dry ditches and canals, fences and fencerows, firebreaks, golf courses*, gravel yards, habitat restoration and management areas, highways and roadsides (including aprons, medians, guardrails and right of ways), industrial plant sites, industrial areas, lumber yards, landscapes and mulched areas, natural areas, parking areas, parks, paved areas, petroleum and other tank farms, pumping installations, pipeline, power, telephone and utility rights-of-way, power stations, preplant to turf and ornamental plants, railroad rights-of way, recreation areas, refineries, resorts, schools, sidewalks, sports areas, storage areas, substations, tennis courts, shelter belts, uncropped farmstead areas, vacant lots, walkways, wastelands, wildlife habitat areas.

*Not for use in CA

RESTRICTIONS

Maximum Rate – Annual

- Do not apply more than 82 fl. oz. of this product per acre per year (1.5 lb. ai/A/year).

Maximum Rate – Single Application

- Do not apply more than 82 fl. oz. of this product per acre per single application (1.5 lb. ai/A/application).

Maximum Number of Applications Per Year

Do not apply more than a total of 3 broadcast applications per year when using reduced application rates (not to exceed a maximum of 1.5 lb. ai/A/year).

Re-treatment Interval:

- Minimum re-treatment interval is 5 days.

APPLICATION RATES

Mix 0.5 to 2.0 fl. oz. (0.009 to 0.036 lb. ai) of this product per gallon of spray solution (24 to 82 fl. oz./A (0.44 to 1.5 lb. ai/A) and apply 1 gallon of spray solution to 1,000 square feet to actively growing weeds. Determine proper use rate based on weed size in Table 1. Larger weeds will require a higher use rate and see Table 1 for details.

Table 1: USE RATE FOR THIS HERBICIDE

Apply this product at the rates listed below for broadcast applications based on weed size and stage of growth.

Weed Size and Stage	Rate of this product (Per Gallon of Water)	Rate of this product (Per Acre)
Easily Controlled Weeds < 3 in height*	0.5 fl. oz. (0.009 lb. ai)	24 fl. oz./A (0.44 lb. ai)
Weeds < 3 in height	1.0 fl. oz. (0.018 lb. ai)	48 fl. oz./A (0.88 lb. ai)
Weeds < 6 in height pre-tiller grasses	1.25 fl. oz. (0.023 lb. ai)	56 fl. oz./A (1.0 lb. ai)
Weeds > 6 in height and/or grasses that have tillered	1.25 to 2.0 fl. oz. (0.023 to 0.036 lb. ai)	56-82 fl. oz./A (1.0 to 1.5 lb. ai)

*See Weeds Controlled Table below for details.

For spot or directed spray applications by backpack sprayers, mix this product at 0.5 to 2.0 fl. oz. of product (0.009 to 0.036 lb. ai) per gallon of water. Larger and more difficult to control weeds require a higher use rate. When using the per gallon rate, calibrate sprayers to deliver 1 gallon of spray solution per 500 to 1,000 square feet. Thorough spray coverage of weeds is necessary to maximize weed control. Spray coverage needs to be uniform, but do not spray to the point of runoff. Thoroughly clean the sprayer following use. Do not make spot or directed spray applications to desired plant foliage or stems as injury may occur.

Use Restrictions:

- Do not apply this product within any enclosed structure in residential or commercial landscapes.
- Do not apply this product over-the-top as a broadcast application to ornamentals.
- Do not allow spray of this product to contact or drift onto the foliage, green stems, exposed roots or fruit of desirable plants. Avoid application of this product under conditions that favor drift of sprays onto desired ornamentals or residential lawns.

This product offers postemergence control of susceptible grasses, sedges and broadleaf weeds (See WEEDS CONTROLLED Table), as well as additional mode of action to assist in the control of resistant weeds.

IMPORTANT: Contact with spray or spray drift of this product may cause severe injury or destruction of certain desirable plants, especially herbaceous species such as bedding plants or direct seeded annual and perennial flowers. The use of spray shields that limit the plant exposure to this product is highly advised when applying this product near desirable plants.

Trim and Edge: This product may be used to trim and edge around trees, buildings, sidewalks, roads, potted plants and other objects in a nursery setting, along fences, in dry ditches and canals, and prior to planting landscape ornamentals.

Site Preparation: Following preplant applications of this product, any ornamental, nursery species or Christmas Tree species may be planted. Precautions need to be taken to protect nontarget plants during site preparation applications.

Greenhouse: This product may be used to control weeds listed on this label which are growing in greenhouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

Industrial: This product may be used to improve line-of-sight at railroad crossings and reduce the need for mowing along rights-of-way, and wayside structures. This product may be tank mixed with other herbicides for these use sites unless specifically prohibited by the product label.

Conservation Reserve Program (CRP)*: This product can be used to control undesirable vegetation when rotating out of CRP acres or to suppress competitive growth and seed production of undesirable vegetation in CRP acres. For selective applications with broadcast spray equipment, apply 48 to 56 fl. oz./A (0.88 to 1.0 lb. ai/A) of this product in early spring before desirable CRP grasses, including crested and tall wheatgrass, break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy. Some stunting of CRP perennial grasses will occur if applications are made when plants are not dormant.

** Not for use in CA*

Wildlife Food Plots*: This product may be used as a site preparation treatment prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after applying this product before tilling.

** Not for use in CA*

Dormant Bermudagrass and/or Bahiagrass*: When applied to dormant Bermudagrass and/or Bahiagrass*, this product will provide control or suppression of many winter annual weeds. Treat with 56 to 82 fl. oz./A (1.0-1.5 lb. ai/A) only when residential lawns are fully dormant in late fall or winter and prior to spring green-up. Spot treatments or broadcast applications of this product to non-dormant turfgrass may result in injury or delayed green-up. Avoid high volume and spot applications where spray volume exceeds 80 gallons per acre or injury or delayed green-up may occur. Applications to residential lawns are limited to spot treatments only. The maximum application rate must not exceed 4 fl. oz./gal. of water/1000 sq. ft. (corresponding to a rate of 0.0312 lb. ai/100 sq. ft.). Applications for renovating Bermudagrass lawns must be conducted when the weather is cool and Bermudagrass is dormant.

**Not for use in CA*

Tank Mixtures: It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

This herbicide can be tank mixed with other non-selective herbicides including glyphosate and preemergence residual herbicides including flumioxazin. Follow the most restrictive label restrictions and precautions for each product. A combination with a residual herbicide including flumioxazin provides effective control of existing weeds as well as lasting residual weed control in areas such as landscape beds and xeriscapes.

WEEDS CONTROLLED

Alfalfa+	Cutleaf eveningprimrose	Mayweed	<i>Rubus</i> spp.
Alkali sida	Dallisgrass	Milkweed, common***+	Rice, red+
Amaranth, Palmer+	Dandelion	Milkweed, honeyvine***+	Rice, volunteer+
Ammannia, purple	Devil's claw*^	Millet, wild proso+	Rush, toad***
Anoda, spurred*^	Dock, curly	Millet, proso volunteer+	Ryegrass, annual**
Arrowhead, California	Dock, smooth+	Morningglory, entireleaf	Sandbur, field
Artichoke, Jerusalem+	Dodder	Morningglory, ivyleaf	Senna coffee+
Aster, white heath	Dogbane (hemp)	Morningglory, pitted	Shattercane
Barley, volunteer*^	Eclipta	Morningglory, sharppod*^	Shepherd's Purse
Barnyardgrass*	Fescue	Morningglory, smallflower+	Sicklepod (java bean)+
Beggarweed, Florida+	Fleabane, annual	Morningglory, tall+	Sida, prickly+
Bermudagrass+	Fiddleneck	Muhly, wirestem***+	Signalgrass, broadleaf*^
Bindweed, field	Filaree	Mullein, common	Smartweed, Pennsylvania
Bindweed, hedge	Filaree, redstem	Mullein, turkey	Smellmelon+
Black medic+	Foxtail, bristly+	Mustard, tansy	Sowthistle, annual
Bluegrass, annual	Foxtail, giant	Mustard, wild	Sowthistle, perennial+
Bluegrass, Kentucky	Foxtail, green	Nettle	Soybean, volunteer+
Blueweed, Texas+	Foxtail, robust purple+	Nightshade, black	Sprangletop
Brome, ripgut	Foxtail, yellow*^	Nightshade, eastern black	Spurge, prostrate*^
Bromegrass, downy	Gallinsoga, hairy+	Nightshade, hairy	Spurge, leafy
Bromegrass, smooth	Gallinsoga, small flower+	Nightshade, silverleaf+	Spurge, spotted*^
Buckwheat, wild	Geranium, cutleaf+	Nutsedge, purple	Starbur, bristly+
Buffalobur	Goosefoot	Nutsedge, yellow	Starthistle, yellow
Bulrush***	Goosegrass*^	Oat, wild*^	Stinkgrass
Burclover, California	Goldenrod, gray	Onion, wild	Sunflower, common
Burcucumber+	Gromwell, field	Orchardgrass	Sunflower, prairie*^
Burdock	Groundcherry, cutleaf	Panicum, fall*^	Sunflower, volunteer
Bursage, woolyleaf+	Groundsell, common	Panicum, Texas	Swinecress
Canarygrass	Guineagrass	Paragrass	Thistle, bull
Carpetweed	Hempnettle+	Pennycress	Thistle, Canada
Catchweed bedstraw	Henbit	Pigweed, redroot*^	Thistle, musk
(cleavers) *^	Horsenettle, Carolina*^	Pigweed, prostrate*^	Thistle, Russian
Chess, soft	Horsetail	Pigweed, spiny*^	Timothy+
Chickweed, common	Johnsongrass, rhizome+	Pigweed, smooth*^	Torpedograss
Chickweed, mouse-ear+	Johnsongrass, seedling*^	Pigweed, tumble*^	Turnip, wild
Chinese thornapple	Jimsonweed	Pineapple weed	Vaseygrass
Clover, Alsike	Junglerice*^	Plantain	Velvetleaf*^
Clover, red	Knotweed*^	Pointsettia, wild+	Vervain
Clover, white	Kochia	Poison ivy/oak	Vetch
Cocklebur, common	Ladysthumb+	Pokeweed+	Waterhemp, common+
Copperleaf, hophornbeam+	Lambsquarters, common	Puncturevine	Waterhemp, tall+
Copperleaf, Virginia	Lettuce, miners	Purslane, common*^	Wheat, volunteer
Corn, volunteer+	Lettuce, prickly	Pusley, Florida+	Willowherb, panicle
Cotton, volunteer+	London rocket	Quackgrass	Windgrass
Crabgrass, large*^	Lovegrass	Radish, wild	Witchgrass
Crabgrass, smooth*^	Mallow, common	Ragweed, common	Woodsorrel
Croton, tropic*^	Mallow, Venice+	Ragweed, giant	Wormwood, biennial+
Croton, woolly*^	Malva (little mallow)	Redmaids	Yarrow, common
Cudweed	Marestail	Rocket, yellow	
Cupgrass, woolly	Marshelder, annual+	Rose, wild	

+Not for use in CA

^Use rate in CA 24 fl. oz./A (0.44 lb. ai)

*easily controlled species

**apply to annual ryegrass prior to 3 inches in height

***indicates suppression only

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Do not use or store near heat or open flame. Keep container tightly closed and dry in a cool, well ventilated place. Storage temperature must not exceed 125° F. If storage temperature of this product is below 32° F, the material must not be pumped until its temperature exceeds 32° F. Protect against direct sunlight.

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

CONTAINER HANDLING:

NOTE: This product is available in multiple containers. Refer to the Net Contents section of this products labeling for the applicable "No refillable" or "Refillable" designation. Follow the container handling instructions below that apply to your container type / size.

Non-refillable Containers 5 Gallons or Less: Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.

Non-refillable Containers Larger than 5 Gallons: Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable Containers Larger than 5 Gallons: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Refillable Container: Refill this container with pesticide only. Do not reuse this container for any other purpose. Close all openings and replace all caps. Contact Nufarm's Customer Service Department at 1-800-345-3330 to arrange for return of the empty refillable container.

WARRANTY DISCLAIMER

The directions for use of this product must be followed carefully. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED "AS IS" BY MANUFACTURER OR SELLER AND (2) MANUFACTURER AND SELLER MAKE NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE, WITH REGARD TO THE PRODUCT SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. UNINTENDED CONSEQUENCES, INCLUDING BUT NOT LIMITED TO INEFFECTIVENESS, MAY RESULT BECAUSE OF SUCH FACTORS AS THE PRESENCE OR ABSENCE OF OTHER MATERIALS USED IN COMBINATION WITH THE GOODS, OR THE MANNER OF USE OR APPLICATION, INCLUDING WEATHER, TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, ALL OF WHICH ARE BEYOND THE CONTROL OF MANUFACTURER OR SELLER AND ASSUMED BY BUYER OR USER. THIS WRITING CONTAINS ALL OF THE REPRESENTATIONS AND AGREEMENTS BETWEEN BUYER, MANUFACTURER AND SELLER, AND NO PERSON OR AGENT OF MANUFACTURER OR SELLER HAS ANY AUTHORITY TO MAKE ANY REPRESENTATION OR WARRANTY OR AGREEMENT RELATING IN ANY WAY TO THESE GOODS.

LIMITATION OF LIABILITY

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL MANUFACTURER OR SELLER BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, OR FOR DAMAGES IN THEIR NATURE OF PENALTIES RELATING TO THE GOODS SOLD, INCLUDING USE, APPLICATION, HANDLING, AND DISPOSAL. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, MANUFACTURER OR SELLER SHALL NOT BE LIABLE TO BUYER OR USER BY WAY OF INDEMNIFICATION TO BUYER OR TO CUSTOMERS OF BUYER, IF ANY, OR FOR ANY DAMAGES OR SUMS OF MONEY, CLAIMS OR DEMANDS WHATSOEVER, RESULTING FROM OR BY REASON OF, OR ARISING OUT OF THE MISUSE, OR FAILURE TO FOLLOW LABEL WARNINGS OR INSTRUCTIONS FOR USE, OF THE GOODS SOLD BY MANUFACTURER OR SELLER TO BUYER. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, ALL SUCH RISKS SHALL BE ASSUMED BY THE BUYER, USER, OR ITS CUSTOMERS. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BUYER'S OR USER'S EXCLUSIVE REMEDY, AND MANUFACTURER'S OR SELLER'S TOTAL LIABILITY SHALL BE FOR DAMAGES NOT EXCEEDING THE COST OF THE PRODUCT.

If you do not agree with or do not accept any of directions for use, the warranty disclaimers, or limitations on liability, do not use the product, and return it unopened to the Seller, and the purchase price will be refunded.

RV051619 [1]

SPECIMEN Alpine® WSG

Water Soluble Granule Insecticide

SMART SOLUTIONS FACTS

Key attributes of this product include:

- Non-repellent active ingredient
- May be used in conjunction with non-repellent insecticides such as those containing dinotefuran (e.g., **Alpine® Cockroach Gel Bait Rotation 1 Reservoir** and **Alpine® Cockroach Gel Bait Rotation 2 Reservoir**) or similar products. Always follow label use directions and applicable laws.
- Ant control product
- Rotational partner for bed bug control
- For use on Stored Product Pests

KILLS: Ants (including Argentine, Carpenter, Harvester, Odorous House, Red Imported, and Southern Fire; excluding Pharaoh), Asian Lady Beetles, Bean Plataspid (Kudzu Bug), Bed Bugs, Beetles (including Confused Flour Beetle, Granary Weevil, Lesser Grain Borer, and Warehouse Beetle), Brown Marmorated Stink Bugs, Centipedes, Cockroaches (including American, German and Turkestan), Collembola, Crickets, Earwigs, Fleas, House Flies, Millipedes, Mosquitoes (*Anopheles*), Paper Wasps, Pillbugs, Sowbugs, Spiders (excluding Brown Recluse), Stored Product Pests (Confused Flour Beetle, Granary Weevil, Lesser Grain Borer, and Warehouse Beetle) and Yellowjackets

FOR USE IN AND AROUND: Animal Housing (including Calf Hutches, Calving Pens and Parlors, Chicken Houses, Dairy Areas, Dog Kennels, Hog Barns, Horse Barns, Milk Rooms and Rabbit Hutches); Apartments; Campgrounds; Cemeteries; Clinics; Food Handling Establishments; Garbage or Refuse Bins and Receptacles; Grain Mills; Granaries; Green Belts; Homes; Hospitals; Hotels; Mausoleums; Mobile Homes; Motels; Food Processing Plants; Nursing Homes; Resorts; Schools; Storage Buildings; Trailers; Transportation Equipment (including Autos, Buses, Boats, Ships, Trains, Trucks, Planes - cargo areas only); Utilities; Warehouses; Commercial, Industrial, and Residential Buildings; Theme Parks; Parks and Recreational Areas and Zoos

Active Ingredient:

Dinotefuran: N-methyl-N-[(tetrahydro-3-furanyl)methyl]guanidine 40.0%

Other Ingredients: 60.0%

Total: 100.0%

EPA Reg. No. 499-561

EPA Est. No.

**KEEP OUT OF REACH OF CHILDREN
CAUTION/PRECAUCION**

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

See back booklet for **First Aid, Precautionary Statements, Directions For Use, Conditions of Sale and Warranty**, and state-specific pest and/or use site restrictions.

**In case of an emergency endangering life or property involving this product,
call day or night 1-800-832-HELP (4357).**

Net Weight:

Produced For:
BASF Corporation
26 Davis Drive
Research Triangle Park, NC 27709

 **BASF**
We create chemistry

FIRST AID	
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after the first 5 minutes; then continue rinsing. • Call a poison control center or doctor for treatment advice.
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 BASF Corporation for emergency medical treatment information: 1-800-832-HELP (4357).	

Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Wear long-sleeved shirt and long pants, socks and shoes, and chemical-resistant gloves (made out of any waterproof material, such as Natural Rubber, selection Category A).

USER SAFETY RECOMMENDATIONS

Users should:

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

Environmental Hazards

This pesticide is toxic to aquatic invertebrates. **DO NOT** apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. **DO NOT** apply when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in water adjacent to treated areas. **DO NOT** dispose equipment washwaters or rinsate into a natural drain or water body.

This product is toxic to honey bees. The persistence of residues and potential residual toxicity of dinotefuran in nectar and pollen suggests the possibility of chronic toxic risk to honey bee larvae and the eventual instability of the hive.

- This product is toxic to bees exposed to residues for more than 38 hours following treatment.
- **DO NOT** apply this product to blooming, pollen-shedding or nectar-producing parts of plants if bees may forage on the plants during this time period, unless the application is made in response to a public health emergency declared by appropriate state or federal authorities.


Groundwater Advisory

Dinotefuran and its degradate, MNG, have the properties and characteristics associated with chemicals detected in groundwater. The high water solubility of dinotefuran and its degradate, MNG, coupled with its very high mobility and resistance to biodegradation indicates that this compound has a strong potential to leach to the subsurface under certain conditions as a result of label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

PROTECTION OF POLLINATORS



APPLICATION RESTRICTIONS EXIST FOR THIS PRODUCT BECAUSE OF RISK TO BEES AND OTHER INSECT POLLINATORS. FOLLOW APPLICATION RESTRICTIONS FOUND IN THE DIRECTIONS FOR USE TO PROTECT POLLINATORS.

Look for the bee hazard icon  in the **Directions For Use** for each application site for specific use restrictions and instructions to protect bees and other insect pollinators.

This product can kill bees and other insect pollinators.

Bees and other insect pollinators will forage on plants when they flower, shed pollen, or produce nectar.

Bees and other insect pollinators can be exposed to this pesticide from:

- Direct contact during foliar applications, or contact with residues on plant surfaces after foliar applications.
- Ingestion of residues in nectar and pollen when the pesticide is applied as a seed treatment, soil, tree injection, as well as foliar applications.

When using this product take steps to:

- Minimize exposure of this product to bees and other insect pollinators when they are foraging on pollinator attractive plants around the application site.
- Minimize drift of this product onto beehives or to off-site pollinator attractive habitat. Drift of this product onto beehives or off-site to pollinator attractive habitat can result in bee kills.

(continued)

PROTECTION OF POLLINATORS *(continued)*

Information on protecting bees and other insect pollinators may be found at the Pesticide Environmental Stewardship website at: <http://pesticidestewardship.org/PollinatorProtection/Pages/default.aspx>.

Pesticide incidents (for example, bee kills) should immediately be reported to the state/tribal lead agency. For contact information for your state, go to: www.aapco.org/officials.html. Pesticide incidents should also be reported to the National Pesticide Information Center at: www.npic.orst.edu or directly to EPA at: beekill@epa.gov

Physical and Chemical Hazards

DO NOT apply water-based sprays of this product to conduits, motor housing, junction and switch boxes or other electrical equipment because of possible shock hazard. **DO NOT** spray where electrical short circuits might result, such as wall outlets, conduits, etc.

Directions For Use

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



DO NOT apply this product while bees are foraging. DO NOT apply this product to plants that are flowering. Only apply after all flower petals have fallen off.

Use Restrictions

- **DO NOT** apply within aircraft cabins.
- **DO NOT** use in outdoor residential misting systems.
- **DO NOT** apply to humans or their clothing or to mattresses. **DO NOT** allow children or pets to contact treated surfaces until spray has dried.
- **DO NOT** apply to household pets. Cover fish tanks prior to application near tanks.
- **DO NOT** apply this product in patient rooms while occupied.
- **DO NOT** apply to classrooms when in use.
- When applying in residential or commercial structures, **DO NOT** contaminate food, feed stuffs or water supply. **DO NOT** contaminate food preparation surfaces, kitchen utensils, dishes or food/feed storage containers. Cover any food/feed contact surfaces and cooking utensils in the treatment area before treatment or thoroughly clean after treatment and before using.
- Apply to the point just prior to runoff. **DO NOT** allow applications of product to drip or run from surfaces.

- When applying to structural areas in and around livestock housing, remove animals or treat in areas where animals are not present. **DO NOT** apply to animals. **DO NOT** allow insecticide to drift onto animals. **DO NOT** contaminate milk, food or drinking water.

STORAGE AND DISPOSAL

DO NOT contaminate water, food, or feed by storage or disposal.

Pesticide Storage

Store in a cool, dry area away from heat or open flame.

Pesticide Disposal

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. If these wastes cannot be disposed of according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representatives at the nearest EPA Regional Office for guidance.

Container Handling

Single-use Packets

Nonrefillable container. DO NOT reuse or refill this container. Offer empty packet for recycling, if available, or dispose of in the trash or by incineration.

Nonrefillable container. DO NOT reuse or refill this container. Triple rinse container promptly after emptying; then offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. **If partly filled:** Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

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

In Case of Emergency

In case of large-scale spill of this product, call:

- CHEMTREC 1-800-424-9300
- BASF Corporation 1-800-832-HELP (4357)

In case of medical emergency regarding this product, call:

- Your local doctor for immediate treatment
- Your local poison control center (hospital)
- BASF Corporation 1-800-832-HELP (4357)

Product Information

This product is a water-soluble granule containing the non-repellent active ingredient dinotefuran. Apply indoors and/or outdoors via crack and crevice, spot or surface application for the listed pests and use sites.

Mixing Instructions

Thoroughly clean spray equipment before mixing and application of this product.

Single-use Packets: 0.35 ounce (10 grams)

Add approximately 1/2 of the water to the spray tank. Tear open the packet and add contents to water, then complete the filling of the spray tank. Agitate the tank until the product is completely dissolved. Reagitate finished dilution if application is interrupted for an extended period of time.

Resealable Bottle:

Add approximately 1/2 of the water to the spray tank. Add 10 to 30 grams of product to water per 1,000 square foot area being treated (1 Tablespoon = 10 grams), then complete the filling of the spray tank. Agitate the tank until the product is completely dissolved. Reagitate finished dilution if application is interrupted for an extended period of time.

SPRAY DILUTION CHART				
Desired Finished Dilution Concentration	Grams of product to make 1 gallon of finished dilution to treat up to 1,000 square feet	Grams of product to make 5 gallons of finished dilution to treat up to 5,000 square feet	Grams of product to make 25 gallons of finished dilution to treat up to 25,000 square feet	Grams of product to make 50 gallons of finished dilution to treat up to 50,000 square feet
0.1%	10	50	250	500
0.2%	20	100	500	1,000
0.3%	30	150	750	1,500

Refer to specific pest categories below for the proper use rate. **One gallon of finished dilution treats 1,000 square feet.** Depending on the surface, more or less water may be used to properly treat areas with a different application apparatus, but the proper amount of active ingredient should be used per square footage.

Tank Mixing

This product may be tank mixed with other water based insecticides including, but not limited to, insect growth regulators (IGR), quick knockdown products and residuals. Before mixing, test to see if products are compatible. When tank mixing, follow the more restrictive label use directions of the mixed products.

Void/Crack & Crevice® Application

Apply into cracks, crevices and voids with equipment designed for such applications. Follow the manufacturer's recommendations for proper equipment set-up and operating pressures. Place the tip of the applicator at or into the crack, crevice or void to be treated. Apply product in short bursts while keeping tip in position. Allow the air stream to push the finished dilution into voids and/or cracks and crevices. Apply in such a manner to avoid dripping and runoff.

Indoor Applications

Dilute to the proper concentration according to targeted pest infestation. Follow the mixing directions found in the **SPRAY DILUTION CHART**. Use one gallon of finished dilution per 1,000 square feet. Refer to **INDOOR APPLICATIONS** table for use rates and pests.

INDOOR APPLICATIONS		
Pests	Finished Dilution (grams per gallon)*	Application Instructions
Ants (excluding Pharaoh)	10	Make spot, Crack & Crevice® and/or void applications where ants may be foraging and/or nesting, such as, around doors, window frames, under sinks, around pipes and in pipe voids, attic venting and other areas where ants may find access or nest.
Bed Bugs	10 to 30	Make spot, Crack & Crevice and/or void applications where evidence of bed bug infestation occurs or bed bugs are suspected, or likely to occur, such as bed frames; box springs; inside empty dressers, clothes closets and luggage; carpets; draperies; furniture; headboards; high and low wall moldings and wallpaper edges. DO NOT apply to mattresses.
Crawling Insects/Pests including: Pillbugs, Spiders (excluding: Brown Recluse), and Turkestan Cockroaches	30	Make spot and/or Crack & Crevice applications into hiding places and entry points such as cracks and crevices, void areas, moist areas, openings around pipes and sinks, under refrigerators or vending machines, interiorscapes, across lower doorway frames and window openings.
Crickets, Cockroaches (American and German), and Millipedes	10 to 30	
Fleas	10	Apply to infested areas or potentially infested areas, such as rugs, floors, carpets, upholstered furniture, pet beds and pet resting areas. When applying to upholstered furniture, treat under cushions and areas where flea development can occur. DO NOT treat pets with this product.
House Flies	10 to 20	Make spot applications on surfaces where flies frequently roost such as door and window frames, screens, trash cans, plants, interiorscapes, ceilings and upper wall surfaces.
When a rate range is indicated, use the lower rate for maintenance applications and the higher rates for heavy infestations. *Refer to SPRAY DILUTION CHART for concentration of active ingredient in finished product.		

Food/Feed Handling Establishments

Food/Feed handling establishments are places other than private residences in which food is held, processed, prepared or served, including those operating under the Federal meat, poultry, shell egg grading and egg products inspection programs. **APPLICATIONS OF THIS PRODUCT IN FOOD/FEED AREAS OF FOOD/FEED HANDLING ESTABLISHMENTS MAY BE MADE AS A CRACK & CREVICE, VOID, SPOT OR GENERAL TREATMENT.** General surface application may be used only when the facility is not in operation provided exposed food/feed has been covered or removed from the area prior to application.

Food/Feed areas include areas for receiving, serving, storing (dry, cold, frozen, raw), packing (canning, bottling, wrapping, boxing), preparing (cleaning, slicing, cooking, grinding), edible waste storage and enclosed processing systems (mills, dairies, edible oils, syrups).

Non-food/feed areas include 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 areas (after packaging, canning or bottling).

Avoid contamination of food/feed or food/feed contact surfaces. Remove or cover food/feed, dishes, utensils, food processing equipment and food preparation surfaces in the treatment area or wash them before use. Apply as a **Crack & Crevice**, void, spot or general treatment to surfaces such as baseboards, under elements of construction, stainless steel equipment, shelving, machinery, storage areas, pallets, tables, chairs and other areas where listed pests may be harboring, traveling, breeding or entering the structure. Maximum use rate is 0.05 grams of active ingredient per linear foot. Reapplications may be made at 3 day intervals when applying as a **Crack & Crevice**, void or spot treatment, or at 6 day intervals when applying as a general surface treatment. This product can also be used as a preventative treatment for areas likely to have future infestations.

Indoor and Outdoor Applications

Dilute to the proper concentration according to targeted pest infestation. Follow the mixing directions found in the **SPRAY DILUTION CHART**. Use one gallon of finished dilution per 1,000 square feet. Refer to **INDOOR/OUTDOOR APPLICATIONS** table for use rates and pests.

In the state of New York, **DO NOT** apply outdoors except for **Crack & Crevice®** or spot treatments to structural components, stumps, utility poles, and fences.

INDOOR/OUTDOOR APPLICATIONS		
Pests	Finished Dilution (grams per gallon)*	Application Instructions
Asian Lady Beetles and Centipedes	10 to 30	Make spot, Crack & Crevice and/or void applications where these pests may harbor or hibernate, such as cracks and crevices, in weep holes, wall voids, around window and door frames, attics and behind siding. Apply to exterior wall surfaces around entry points and resting areas where insects congregate.
Bean Plataspid (Kudzu Bug), Brown Marmorated Stink Bugs	30	
Carpenter Ants	10 to 20	Make spot, Crack & Crevice and/or void applications to any trails, inside or outside, around doors and windows and other places where ants may enter premises (such as atriums, attic venting, crawl spaces, ceilings, fences, exterior building surfaces, landscape timbers, garages, hollow doors, soffits, wall voids, weep holes and other void areas). Where possible, directly apply to ant nests or infested wood or trees.
Paper Wasps and Yellowjackets	30	To treat a yellowjacket or wasp nest, apply liberally to the nest and the surrounding area. For nests inside wall voids, inject an amount sufficient to treat the entire nest. Most applications should require about 0.5 gallon of diluted material. Pay attention to surfaces or items that the product may contact (i.e. electrical wiring). DO NOT use where there is an electrical shock hazard. THIS PRODUCT DOES NOT PROVIDE INSTANT KNOCKDOWN.
Stored Product Pests (Confused Flour Beetle, Granary Weevil, Lesser Grain Borer, and Warehouse Beetle)	10	Before storing products, treat warehouses, production facilities, storage areas, rail cars, truck beds, and other areas where products are stored. Apply as a spot and/or Crack & Crevice treatment to cracks, crevices, and surfaces where pests have been seen or may have harborage. This product may be used to treat empty grain storage facilities and other listed areas for stored product pest control. Cleaning areas prior to use of this product will increase levels of control. Any foodstuffs infested with pests should be removed and destroyed.
When a rate range is indicated, use the lower rate for maintenance applications and the higher rates for heavy infestations. *Refer to SPRAY DILUTION CHART for concentration of active ingredient in finished product.		

PREVENTATIVE PROGRAMS: This product may be used as part of a preventative program or in anticipation of a pest problem associated with a structure or an event.

Outdoor Applications

Dilute to the proper concentration according to targeted pest infestation. Follow the mixing directions found in the **SPRAY DILUTION CHART**. Use one gallon of finished dilution per 1,000 square feet. Refer to **OUTDOOR APPLICATIONS** table for use rates and pests.

DO NOT apply this product, by any application method, to linden, basswood or other *Tilia* species in the State of Oregon.

In the state of New York, **DO NOT** apply outdoors except for **Crack & Crevice®** or spot treatments to structural components, stumps, utility poles, and fences.

OUTDOOR APPLICATIONS		
Pests	Finished Dilution (grams per gallon)*	Application Instructions
Ants (excluding Pharaoh)	10	Make spot and/or Crack & Crevice applications to any foraging trails, nests or mounds where ants are present. Make spot and/or Crack & Crevice applications to exterior areas where ants may enter a structure. Where possible, directly apply to ant nests or infested wood or trees. Curative broadcast applications can be made to yards, lawns, fields, parks, cemeteries, landscaping and structures. To help prevent infestations, make exterior structural and surrounding area applications according to this label.
Exterior Structural and Surrounding Area Applications for Collembola (Springtails), Crickets and Millipedes	10 to 30	Directly contacting pests, apply where pests rest, trail and harbor, such as structural and other voids (including voids associated with and around doors, windows, utility entry points, behind siding, weep holes and tree hollows), eaves of structures, around lights or other insect attractant areas, foliage, bushes, landscape materials, garbage receptacles, under trees and other shaded areas.
Exterior Structural and Surrounding Area Applications for Crawling Insects/Pests including: Earwigs, Pillbugs, Sowbugs, Spiders (excluding Brown Recluse), and Turkestan Cockroaches	30	
Fleas	10	Apply to yards, porches, patios or other areas of habitation for fleas, especially areas that pets frequent, directly contacting fleas. Pay particular attention to shaded areas with low protective covering such as under bushes, under decks, lawn furniture, lawn ornaments and other landscape materials. Apply to pet entry areas such as steps and stoops and other areas where pets rest or sit for extended periods of time, directly contacting fleas. DO NOT treat pets with this product.
House Flies	10 to 20	Apply to outside surfaces of screens, doors, window frames, porches, in garages, on foliage or wherever flies enter or congregate around or on the building, directly contacting flies. Application sites include inside and outside surfaces of dumpsters, other trash holding containers and surrounding surfaces, directly contacting flies.

(continued)

OUTDOOR APPLICATIONS <i>(continued)</i>		
Pests	Finished Dilution (grams per gallon)*	Application Instructions
Mosquitoes (<i>Anopheles</i>)	20	<p>Apply using handheld, back-pack or truck mounted sprayers only. Not for use with truck mounted or handheld cold aerosol ULV sprayers, or thermal fogging devices. Use up to 50 gallons of diluted spray per 50,000 square feet. Apply to shrubbery, vegetation and other areas where mosquitoes may rest. Shrubby and vegetation around stagnant pools, marshy areas, ponds and shorelines may be treated if applied as a wet spray. Direct application of this product to any body of water is prohibited.</p> <p>DO NOT apply by aircraft. Not approved for use on mosquitoes in the state of New York.</p>
<p>When a rate range is indicated, use the lower rate for maintenance applications and the higher rates for heavy infestations.</p> <p>*Refer to SPRAY DILUTION CHART for concentration of active ingredient in finished product.</p>		

USE IN AND AROUND LIVESTOCK HOUSING

For structural use indoors and outdoors of animal housing. Remove animals or treat in areas where animals are not present. **DO NOT** apply to animals. **DO NOT** allow insecticide to drift onto animals. **DO NOT** contaminate milk, food or drinking water.

To kill house flies on outdoor surfaces and in animal housing including calf hutches, calving pens and parlors, chicken houses, dairy areas, dog kennels, hog barns, horse barns, milk rooms and rabbit hutches: Treat normal fly resting areas such as ceilings, screens, upper corners of the area, around windows and doors, light fixtures and other surfaces known to attract flies. Apply as a coarse, wet spray. Using a mixture of 10 to 20 grams of product per gallon of water, apply at a rate of 1 gallon diluted product per 1,000 square feet of surface. For best results, initiate treatments at the beginning of the fly season and repeat during periods of heavy fly activity.

Conditions of Sale and Warranty

The **Directions For Use** of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Ineffectiveness or other unintended consequences may result because of such factors as environmental conditions, presence of other materials, or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of BASF CORPORATION ("BASF") or the Seller. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer. BASF warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the **Directions For Use**, subject to the inherent risks, referred to above. **TO THE EXTENT CONSISTENT WITH APPLICABLE LAW: (A) BASF MAKES NO OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY, (B) BUYER'S EXCLUSIVE REMEDY AND BASF'S AND SELLER'S EXCLUSIVE LIABILITY, WHETHER IN CONTRACT, TORT, NEGLIGENCE, STRICT LIABILITY, OR OTHERWISE, SHALL BE LIMITED TO REPAYMENT OF THE PURCHASE PRICE OF THE PRODUCT, AND (C) BASF AND THE SELLER DISCLAIM ANY LIABILITY FOR CONSEQUENTIAL, INCIDENTAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.** BASF and the Seller offer this product, and the Buyer and User accept it, subject to these **Conditions of Sale and Warranty** which may be varied only by agreement in writing signed by a duly authorized representative of BASF.

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