Material Safety Data Sheet

CELSIUS™ WG HERBICIDE

MSDS Number: 102000022858
MSDS Version 1.0
Revision Date: 08/28/2009

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name	CELSIUS™ WG HERBICIDE
MSDS Number	102000022858
EPA Registration No.	432-1507

Bayer Environmental Science
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
USA

For MEDICAL, TRANSPORTATION or other EMERGENCY call: 1-800-334-7577 (24 hours/day)
For Product Information call: 1-800-331-2867

SECTION 2. HAZARDS IDENTIFICATION

NOTE: Please refer to Section 11 for detailed toxicological information.

Emergency Overview	Caution! Moderate eye irritation. Avoid contact with skin, eyes and clothing. Wash thoroughly with soap and water after handling.
Physical State	dry, free flowing, water dispersible granules
Odor	characteristic
Appearance	beige
Routes of Exposure	Eye contact, Skin contact, Ingestion
Immediate Effects	
Eye	May cause eye irritation. Do not get in eyes.
Ingestion	May be harmful if swallowed.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Average % by Weight
Dicamba	1918-00-9	57.40
Iodosulfuron-methyl-sodium	144550-36-7	1.90
Thiencarbazone-methyl	317815-83-1	8.70
Sodium dioctyl sulphosuccinate	577-11-7	
Sulphonated aromatic polymer, sodium salt		
Sodium hydroxide	1310-73-2	

SECTION 4. FIRST AID MEASURES

General
When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

Eye
Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.

Skin
Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.

Ingestion
Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

Inhalation
Move 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 physician or poison control center immediately.

Notes to Physician Treatment
Treat symptomatically. There is no specific antidote.

SECTION 5. FIRE FIGHTING MEASURES

Fire and Explosion Hazards
In the event of fire the following may be released:
Hydrogen chloride (HCl)
Carbon dioxide (CO_2)
Carbon monoxide (CO)
Sulphur oxides

Suitable Extinguishing Media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Fire Fighting Instructions	Keep out of smoke. Fight fire from upwind position. Whenever possible, contain fire-fighting water by diking area with sand or earth. Do not allow run-off from fire fighting to enter drains or water courses. Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.
Methods for cleaning up	Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations. Decontaminate tools and equipment following cleanup.
Additional Advice	Use personal protective equipment. Do not allow to enter soil, waterways or waste water canal. Do not allow product to contact vegetation.

SECTION 7. HANDLING AND STORAGE

Handling Procedures	Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation. Handle and open container in a manner as to prevent spillage. Keep away from heat and sources of ignition.
Storing Procedures	Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.
Work/Hygienic Procedures	Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. Remove Personal Protective Equipment (PPE) immediately after handling this product. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.
Min/Max Storage Temperatures	Recommended minimum transport/storage temperature: -10 °C / 14 °F Recommended maximum transport/storage temperature: 40 °C / 104 °F

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General Protection	Follow all label instructions. Train employees in safe use of the product. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such

instructions for washables, use detergent and warm/tepid water. Keep and wash PPE separately from other laundry.

Eye/Face Protection Safety glasses with side-shields

Hand protection Chemical resistant nitrile rubber gloves

Body Protection Wear long-sleeved shirt and long pants and shoes plus socks.

Respiratory Protection When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

Exposure Limits

Iodosulfuron-methyl-sodium	144550-36-7	OES BCS*	TWA	1 mg/m3
Dicamba	1918-00-9	TX ESL	ST ESL	100 ug/m3
		TX ESL	AN ESL	10 ug/m3

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance beige

Physical State dry, free flowing, water dispersible granules

Odor characteristic

pH 8.0 - 9.5 (1 %) at 23 °C
Measuring at room temperature 23 °C ± 3 °C

SECTION 10. STABILITY AND REACTIVITY

Incompatibility no data available

Hazardous Reactions No hazardous reactions known.

Chemical Stability Stable under recommended storage conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Oral Toxicity female rat: LD50: > 5,000 mg/kg

Acute Dermal Toxicity male/female combined rat: LD50: > 5,000 mg/kg

Acute Inhalation Toxicity male/female combined rat: LC50: > 2.54 mg/l
Exposure time: 4 h
Determined in the form of dust.

male/female combined rat: LC50: > 10.2 mg/l
Exposure time: 1 h
Determined in the form of dust.
Extrapolated from the 4 hr LC50.

Skin Irritation rabbit: Slight irritation.

Eye Irritation rabbit: Moderate eye irritation.

Chronic Toxicity Dicamba did not target any organs in chronic toxicity studies in rats and dogs.

Iodosulfuron-methyl-sodium caused body weight changes in rats and minimal to moderate hematopoietic hyperplasia and increased cholesterol in dogs.

Thiencarbazone-methyl caused urinary tract irritation in long term studies in mice, rats and dogs.

Assessment Carcinogenicity

Dicamba was not carcinogenic in lifetime feeding studies in rats and mice. EPA has classified dicamba "not likely to be carcinogenic to humans."

Iodosulfuron-methyl-sodium was not carcinogenic in lifetime feeding studies in rats and mice.

Thiencarbazone-methyl was not carcinogenic in a lifetime feeding study in rats. In a lifetime feeding study in mice, there was a low incidence of urinary bladder tumors at high doses secondary to the chronic irritation due to the presence of bladder stones. Thiencarbazone-methyl was considered not to be directly carcinogenic in mice.

ACGIH
None.
NTP
None.
IARC
None.
OSHA
None.

Reproductive toxicity REPRODUCTION: Dicamba was not a primary reproductive toxicant in a two-generation reproduction study in rats. Reproductive effects were observed only at doses that caused parental systemic toxicity. Offspring toxicity was manifested at a dose lower than parental systemic toxicity.

DEVELOPMENTAL TOXICITY: Dicamba was not a primary developmental toxicant in rats and rabbits. Developmental effects were observed in rabbits but

were considered secondary to maternal toxicity.

REPRODUCTION: Iodosulfuron-methyl-sodium was not a reproductive toxicant at non-maternally toxic dose levels in a multi-generation study in rats.

DEVELOPMENTAL TOXICITY: Iodosulfuron-methyl-sodium is not a primary developmental toxicant in laboratory animals. Slight developmental effects were observed in conjunction with maternal toxicity only at the limit dose (1000 mg/kg) in rats.

REPRODUCTION: Thiencarbazone-methyl was not a reproductive toxicant in a two-generation study in rats. Thiencarbazone-methyl caused toxicity in offspring at doses producing systemic toxicity in adult rats.

DEVELOPMENTAL TOXICITY: Thiencarbazone-methyl was not a primary developmental toxicant in rats and rabbits. Developmental effects were observed but were considered secondary to maternal toxicity.

Neurotoxicity

Dicamba has demonstrated the potential to cause neurotoxicity at high doses in laboratory animals.

Iodosulfuron-methyl-sodium did not demonstrate the potential to cause neurotoxicity in standard toxicity studies using laboratory animals.

Thiencarbazone-methyl was not a neurotoxicant in acute and subchronic neurotoxicity screening studies in rats.

Mutagenicity

Dicamba did not demonstrate evidence of mutagenic potential, although, some positive results have been reported in the published literature.

Iodosulfuron-methyl-sodium is not considered genotoxic based on in vitro and in vivo tests.

Thiencarbazone-methyl was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

SECTION 12. ECOLOGICAL INFORMATION

Environmental Precautions

Drift or runoff from treated areas may adversely affect non-target plants. Do not apply when weather conditions favor runoff or drift. Do not allow to get into surface water, drains and ground water. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance	Dispose in accordance with all local, state/provincial and federal regulations. Do not dispose of waste into sewer. Follow advice on product label and/or leaflet.
Container Disposal	Triple rinse containers. Add washings to sprayer at time of filling. Puncture container to avoid re-use. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

DOT CLASSIFICATION:
Not regulated for transport in the US

FREIGHT CLASSIFICATION:
Compounds, Tree or Weedkilling, N.O.I., other than poison, having a density of 20 LBS or greater per cubic foot

SECTION 15. REGULATORY INFORMATION

EPA Registration No. 432-1507

US Federal Regulations

TSCA list

Sodium dioctyl sulphosuccinate	577-11-7
Sulphonated aromatic polymer, sodium salt	
Sodium hydroxide	1310-73-2

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)

None.

SARA Title III - Section 302 - Notification and Information

None.

SARA Title III - Section 313 - Toxic Chemical Release Reporting

Dicamba	1918-00-9	1.0%

US States Regulatory Reporting

CA Prop65

This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

US State Right-To-Know Ingredients

Dicamba	1918-00-9	CA, CT, IL, NJ, PA
Sodium hydroxide	1310-73-2	CA, CT, IL, MN, PA, RI

Canadian Regulations

Canadian Domestic Substance List

Sodium dioctyl sulphosuccinate	577-11-7

Sulphonated aromatic polymer, sodium salt		
Sodium hydroxide	1310-73-2	

Environmental

CERCLA

Dicamba	1918-00-9	1,000 lbs
Sodium hydroxide	1310-73-2	1,000 lbs

Clean Water Section 307 Priority Pollutants

None.

Safe Drinking Water Act Maximum Contaminant Levels

None.

International Regulations

European Inventory of Existing Commercial Substances (EINECS)

Sodium hydroxide	1310-73-2

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

Health - 1 Flammability - 1 Reactivity - 0 Others - none

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason to Revise: New Material Safety Data Sheet.

Revision Date: 08/28/2009

This information is provided in good faith but without express or implied warranty. The customer assumes all responsibility for safety and use not in accordance with label instructions. The product names are registered trademarks of Bayer.

WILBUR-ELLIS.

HERBICIDE VAQUERO®

ACTIVE INGREDIENT:

Clethodim*	26.4%
OTHER INGREDIENTS:	73.6%
TOTAL:	100.0%

Contains Petroleum Distillates

*(E)-2-[1-[[(3-chloro-2-propenyl)oxy]imino]propyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one
VAQUERO® contains 2.0 lb. clethodim per gallon.

EPA Reg. No. 2935-559 EPA Est. No. 42750-MO-001

KEEP OUT OF REACH OF CHILDREN

CAUTION

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing before reuse. Wear long sleeve shirt and long pants, chemical-resistant gloves and shoes plus socks. Wear protective eyewear. Avoid breathing spray mist.

FIRST AID	
If swallowed:	• Immediately call a poison control center or doctor. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give **any** liquid to the person. • Do not give anything by mouth to an unconscious person.
If on skin:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If inhaled:	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for further treatment advice.
If in eyes:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. • Call a poison control center or doctor for treatment advice.
HOT LINE 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 EMERGENCY TELEPHONE NUMBERS: (800) 424-9300 CHEMTREC (transportation and spills) (800) 222-1222 POISON CONTROL CENTER (human health) (888) 426-4435 ASPCA (animal health)	
NOTE TO PHYSICIAN - Contains petroleum distillate – vomiting may cause aspiration pneumonia.	

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as Barrier Laminate or Viton > 14 mils
- Shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. 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.

ENGINEERING CONTROLS STATEMENTS

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.

USER SAFETY RECOMMENDATIONS

Users should:

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

ENVIRONMENTAL HAZARDS

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 where runoff is likely to occur. Do not apply where weather conditions favor drift from areas treated. Do not contaminate water when disposing of equipment washwater or rinsate.

The use of this product may pose a hazard to the federally designated endangered species of Solano Grass and Wild Rice. Use of this product is prohibited in the following areas where the species are known to exist.

Solano Grass**:** Solano County, California: the vernal lakes area bounded by the Union Pacific Railroad and Hastings Road to the North, Highway 113 to the East, Highway 12 to the South, and Travis Air Force Base to the West.

Wild Rice**:** Hays County, Texas.

NON-TARGET ORGANISM ADVISORY STATEMENT: This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated area. Protect the forage and habitat of non-target organisms by following label directions intended to minimize spray drift.

PHYSICAL OR CHEMICAL HAZARDS

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 apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Read the entire label before using this product. Use strictly in accordance with label precautionary statements and directions.

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 interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.

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

- Coveralls
- Chemical-resistant gloves such as Barrier Laminate or Viton > 14 mils
- Shoes plus socks
- Protective eyewear

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, nurseries or greenhouses.

Keep all unprotected persons out of operating areas or vicinity where there may be drift. Do not enter treated areas without protective clothing until sprays have dried.

PRODUCT INFORMATION AND INSTRUCTIONS

VAQUERO is for use on the following:

Alfalfa
Amaranth
Arracacha
Arrowroot
Artichoke
Arugula
Asparagus
Bean (Various)
Beet
Bok Choy
Broccoli
Broccoli (Chinese)
Broccoli Raab
Brussels Sprout
Burdock
Bushberry (Various)
Cabbage
Caneberry (Various)
Canna
Canola*
Cantaloupe
Cardoon
Carrot
Cassava
Cauliflower
Cavalo Broccolo
Conifer Plantations
Corn (field)***
Corn Salad
Cotton
Cranberry
Cress
Cucumber
Dandelion
Dasheen (Taro)
Dock
Eggplant
Endive
Fallow Land
Fennel
Flax*
Garlic
Gerkin
Ginger
Ginseng
Gourd (Edible)
Ground Cherry
Herbs (various)
Honeydew Melon
Hops
Horseradish
Jerusalem Artichoke
Onion
Orach
Ornamentals
Parsley
Parsnip
Peach
Peanut
Pea (Various)
Pepino
Pepper
Potato
Pumpkin
Purslane
Radicchio
Radish
Radish (Oriental)
Rape Greens
Rhubarb
Rutabaga
Safflower
Salsify
Scallion
Sesame
Shallot
Skirret
Soybean

Celeriac	Kale	Spices
Celery	Kohlrabi	Squash
Celery (Chinese)	Leek	Strawberry
Celtuce	Leren	Sugarbeet
Chayote	Lettuce	Sunflower
Chervil	Melon (Citrus)	Sweet Potato
Chicory	Mint	Swiss Chard
Chinese Artichoke	Mizuna	Tanier (Cocovam)
Chinese Waxgourd	Momordica	Tomatillo
Christmas Trees	Muskmelon	Tomato
Chrysanthemum (edible)	Mustard Greens	Turmeric
Chufa	Mustard Seed*	Turnip
Clover**	Non-Bearing Fruit/Nut Crops	Turnip Greens
Collards	Non-Crop Areas	Watermelon
Conifer Nurseries	Non-Planted Areas	Yam

*Not registered for use in California.

**For use on clover grown in the states of Idaho, Oregon, and Washington only.

*** VAQUERO Herbicide is for use to control existing stands of field corn (including Roundup Ready® corn) and for use prior to replanting corn.

VAQUERO is a selective post-emergence herbicide for control of annual and perennial grasses.

VAQUERO does not control sedges or broadleaf weeds.

Control Symptoms: A reduction in vigor and growth is evident in treated grass weeds. Early chlorosis/necrosis of younger plant tissue is followed by a progressive collapse of the remaining foliage. Symptoms will generally be observed in 7-14 days depending on grass species treated and environmental conditions.

In some grass species, repeated use of VAQUERO (or similar post-emergence grass herbicides with the same mode of action) may lead to the selection of naturally occurring biotypes that are resistant to these products. A resistant biotype may be present if poor performance occurs and cannot be attributed to adverse weather or application conditions. This potential resistance will most likely occur in fields where other control strategies such as crop rotation, mechanical removal, and other classes of herbicides are not used from year-to-year.

Do not allow VAQUERO to contact desirable grass crops such as corn, rice, sorghum, small grains, or turf, as these and other grass crops will be injured or killed. Minor leaf spotting may occur on treated plants under certain environmental conditions. New foliage is not affected.

VAQUERO is not for use on vegetable crops being grown for seed production unless specific use directions are provided in this label or through Supplemental Labeling.

Not all specialty varieties of vegetable crops on this label have been tested for tolerance to VAQUERO. It is advised that, before applying VAQUERO to specialty varieties of crops listed on this label, crop tolerance should be investigated first using a small section of the field. It is possible that injury symptoms may occur. Symptoms may appear as leaf speckling or stunting.

Best perennial grass control can be obtained if rhizomes or stolons are cut up by preplant tillage practices, (discing, plowing, etc.) to stimulate maximum emergence of grass shoots. Cultural practices, such as continuous no-tillage in which the perennial grass rhizomes or stolons are not cut up, result in a very staggered, non-uniform weed emergence. Under these conditions and due to such non-uniform weed emergence, make no fewer than two VAQUERO applications per year at the appropriate weed-growth stage rate under continuous no-till conditions.

APPLICATION INFORMATION

Application Timing
Apply VAQUERO post-emergence to actively growing grasses according to rate table directions in this label. Do not apply to grass plants under stress from insufficient moisture or cold temperatures, or to grass plants exceeding recommended growth stages as unsatisfactory control may result.

In arid regions where irrigation is used to supplement limited rainfall, VAQUERO should be applied as soon as possible after an irrigation (within 7 days). In arid regions, a second application of VAQUERO will generally provide more effective control of perennial grass weeds than a single application. Make second application to actively growing grass 2 - 3 weeks after emergence of new growth.

Cultivation of treated grasses 7 days prior to or within 7 days after application of VAQUERO may reduce weed control. DO NOT APPLY VAQUERO if rainfall is expected within 1 hour of application since control may be reduced.

Ground Application
To ensure complete coverage, it is essential to use sufficient spray volumes and pressure. Use a minimum of 5 gallons and a maximum of 40 gallons of spray solution per acre. Under the following conditions, a minimum of 10 gallons per acre is required: narrow row soybeans, broadleaf herbicide tank mixes, perennial grasses, volunteer corn, drought or stress conditions, heavy grass pressure or when grasses are at, or near, maximum height. Failure to use a minimum of 10 gallons per acre under these conditions can result in poor coverage and reduced grass control requiring repeat applications. Spray pressures should reflect a minimum of 30 psi and a maximum of 60 psi at the nozzle. Do not use flood nozzles.

Applications to onions (dry bulbs and green), garlic, and shallots (dry bulbs and green) should be made in a minimum of 20 gallons of spray solution per acre.

Aerial Application
AERIAL APPLICATION IS PROHIBITED FOR ALL TREE FRUITS AND TREE NUTS.

Use a minimum of 3 gallons of spray solution per acre unless otherwise directed on this label. As grass or crop foliage becomes dense, increase spray volume up to 10 gallons.

For onions (dry bulbs and green), garlic, or shallots (dry bulbs and green): Do not exceed 8 fl. oz./A (0.125 lb. a.i./A) in a single application when applying by air. In California, air applications to onions, garlic or shallots should be made in a minimum of 20 gallons of spray solution per acre. **NOTE:** Crop injury may occur when VAQUERO is applied to onions, garlic, or shallots with aerial equipment.

Spot Treatment
When using hand sprayers or high-volume sprayers utilizing hand guns, mix 1/4% - 1/2% (0.33 oz. - 0.65 oz. per gallon) VAQUERO and spray to wet vegetation, while not allowing runoff of spray solution. For uses where a crop oil concentrate (COC) or methylated seed oil (MSO) are recommended, include the COC or MSO at 1% (1.3 oz. per gallon) by volume. For uses where a non-ionic surfactant is recommended, include the non-ionic surfactant at 1/4% (0.33 oz. per gallon) by volume.

NOTE: If VAQUERO is applied as a spot treatment, do not exceed the maximum rate allowed on a "per acre" basis or crop injury may occur.

USE RESTRICTIONS

- Do not apply if rain is expected within 1 hour of application as unsatisfactory control may occur.
- Do not plant rotational crops until 30 days after application of VAQUERO unless crop is listed on VAQUERO label.
- Aerial application for all tree fruits and tree nuts is prohibited.
- Refer to crop specific Directions For Use for restrictions on:
    - Number of annual applications allowed per year
    - Maximum amount of product that may be applied per year per acre
    - Maximum single application rates
    - Minimum spray intervals between applications

- Do not apply a post-emergence broadleaf herbicide within one day following application of VAQUERO or reduced grass control may result.
- Do not apply under conditions of stress. Applying VAQUERO under conditions that do not promote active grass growth will reduce herbicide effectiveness. These conditions include drought, excessive water, extremes in temperature, low humidity and grasses either partially controlled or stunted from prior pesticide applications. Grasses under these kinds of stressful conditions will not absorb and translocate VAQUERO effectively, and will be less susceptible to herbicide activity.
- Do not allow VAQUERO to contact desirable grass crops such as corn, rice, sorghum, small grains, or turf, as these and other grass crops will be injured or killed. Minor leaf spotting may occur on treated plants under certain environmental conditions. New foliage is not affected.
- Application in Nassau and Suffolk counties of New York State is restricted to no more than 16 fl. oz. of VAQUERO (0.25 lb. a.i.) per acre per year.

CHEMIGATION INFORMATION

This product may be applied to onions and garlic by sprinkler irrigation systems. **DO NOT** apply by chemigation to any other crop.

CHEMIGATION – ONIONS (Dry Bulbs and Green) AND GARLIC ONLY

SPRINKLER IRRIGATION APPLICATION

- Do not apply VAQUERO by chemigation in the states of Idaho, Montana, Oregon and Washington.
- Do not apply VAQUERO by chemigation to any other crop besides onions and garlic.

Apply VAQUERO at the high rate specified for annual grasses (16 fl. oz./A) when the grass height is at the shorter end of the height range (application to taller grasses may not provide adequate control). Add a non-ionic surfactant at 0.25% v/v.

Apply VAQUERO in 0.1 - 0.2 acre-inch of water either at the end of a regular irrigation set or as a separate application not associated with a regular irrigation using the least amount of water that provides proper distribution and coverage. Application of more than label specified volume of irrigation water per acre may result in decreased product performance by removing the chemical from the zone of effectiveness. Use a metering device to inject VAQUERO into irrigation water at a constant flow.

Constant agitation must be maintained in the chemical supply tank during the entire period of herbicide application. Inject the product with a positive displacement pump into the main line ahead of a right angle turn to ensure adequate mixing. Allow time for all lines to flush the herbicide through all nozzles before turning off irrigation water. To ensure the lines are flushed and free of remaining herbicide, a dye indicator may be injected into the lines to mark the end of the application period.

Do not apply VAQUERO through an irrigation system connected to a public water system. A public water system is a system for the provision of piped water to the public for human consumption when such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

USE PRECAUTIONS

1. Apply this product only through the following sprinkler irrigation systems: center pivot, lateral move, end tow, side (wheel) roll, travelers, big gun, solid set, or hand move. Do not apply this product through any other type of irrigation system.
2. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop may result from non-uniform distribution of treated water.
3. If you have any questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
4. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the label-prescribed safety devices for public water supplies are in place.
5. A person knowledgeable of the chemigation system and responsible for its operation or under supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

6. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
7. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
8. The pesticide injection pipeline must also contain a functional, normally closed solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
9. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
10. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
11. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
12. Do not apply when wind speed favors drift beyond the area intended for treatment.

SPRAY DRIFT

SPRAY DRIFT DIRECTIONS
Aerial Applications: • Do not release spray at a height greater than 10 feet above the vegetative canopy, unless a greater application height is necessary for pilot safety. • Applicators are required to use a coarse or coarser droplet size (ASABE S572.1). • The boom length must not exceed 65% of the wingspan for airplanes or 75% of the rotor blade diameter for helicopters. • Applicators must use ½ swath displacement upwind at the downwind edge of the field. • Nozzles must be oriented so the spray is directed toward the back of the aircraft. • Do not apply when wind speeds exceed 10 miles per hour at the application site. • Do not apply during temperature inversions.
Ground Boom Applications: • Apply with the nozzle height recommended by the manufacturer, but no more than 3 feet above the ground or crop canopy. For all other ground applications, the nozzle must be no more than 3 feet from the target vegetation. • Applicators are required to use a medium or coarser droplet size (ASABES572.1). • Do not apply when wind speeds exceed 10 miles per hour at the application site. • Do not apply during temperature inversions.

SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.

BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS

IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size – Ground Boom

- **Volume** – Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- **Pressure** – Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- **Spray Nozzle** – Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

Controlling Droplet Size – Aircraft

- **Adjust Nozzles** – Follow nozzle manufacturers recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

BOOM HEIGHT – Ground Boom
For ground equipment, the boom should remain level with the crop and have minimal bounce.

RELEASE HEIGHT – Aircraft
Higher release heights increase the potential for spray drift.

SHIELDED SPRAYERS
Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY
When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS
Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or 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. Avoid applications during temperature inversions.

WIND
Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.

Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

TANK MIXES (See page 41 for additional tank mix instructions)

Always read and follow the entire label of each product to be used in the tank mix with this product.

Always follow the most restrictive label language, including all crop rotation and other crop restrictions, for all products whether used alone, or in a tank mix.

Tank mixes of VAQUERO and broadleaf herbicides may result in reduced grass control. If grass regrowth occurs, an additional application of VAQUERO may be necessary.

Tank mixing or use of this product with any other product which is not specifically and expressly authorized by the label shall be the exclusive risk of the user, applicator and/or applicator advisor.

WEED RESISTANCE MANAGEMENT

Some weeds are known to develop resistance to herbicides that have been used repeatedly. While the development of herbicide resistance is well understood, it is not easily predicted. Therefore, herbicides should be used in conjunction with the resistance management strategies in the area.

For resistance management, please note that VAQUERO contains a Group 1 herbicide. Any weed population may contain plants naturally resistant to Group 1 herbicides. The resistant individuals may dominate the weed population if these herbicides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

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

- Rotate the use of VAQUERO or other Group 1 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in a field.
- Apply VAQUERO at the correct timing and rate needed to control the most difficult weed in the field.
- 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 crop rotation, and that considers tillage (or other mechanical control methods), cultural (e.g., higher crop seeding rates; precision fertilizer application method and timing to favor the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- Scout fields prior to herbicide application to identify the weed species present and their growth stage to determine if the intended application will be effective.
- Scout fields 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; and (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 such as hoeing or tillage. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.
- 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, and/or use non-chemical means to remove escapes, as practical, with the goal of preventing further seed production.

Report any incidence of non-performance of this product against a particular weed species to your local Wilbur-Ellis Company representative or call (720) 306-6340.

ADJUVANT RECOMMENDATIONS

The addition of a crop oil concentrate or methylated seed oil or a non-ionic surfactant such as RAINIER-EA® or R-11® will improve the performance of VAQUERO. Crop oil concentrates and methylated seed oils can cause crop injury with certain tank mix partners or on sensitive crops. Under these circumstances, non-ionic surfactants (NIS) can be used in place of crop oil concentrates. Reduced weed control may result from use of non-ionic surfactant, instead of crop oil concentrates. Oil/nitrogen blend adjuvants may be substituted for crop oil concentrates or methylated seed oil at appropriate equivalent use rates. Under drought conditions, methylated seed oil adjuvants can be used in place of COCs to improve performance. Methylated seed oils can increase crop injury potential and care should be taken when considering their use. Ammonium sulfate (AMS) or urea-ammonium nitrate (UAN), and similar liquid foliar nitrogen fertilizers can improve control of hard to control grasses and help overcome potential antagonism from tank mix partners. The use of AMS or UAN is only allowed on specified crops and may increase the possibility of crop injury under some conditions.

Follow **TABLE 1** for **ADJUVANT USE INSTRUCTIONS**.

Follow **TABLE 2** for **VAQUERO HERBICIDE USE RATES/RESTRICTIONSAND GUIDELINES**

TABLE 1: ADJUVANT USE WITH VAQUERO HERBICIDE

Adjuvant	Adjuvant Use Rate	Comments
COC (Crop Oil Concentrate) OR	1% v/v	Use with VAQUERO in most use patterns other than those listed directly below.
MSO (Methylated Seed Oil) OR	1% v/v	Use for improved control under drought conditions or other weed stress conditions. MSO can increase injury with some tank mix partners.
NON-IONIC SURFACTANT	0.25% v/v	Use where directed or where crop sensitivity is a concern.
OIL/NITROGEN BLEND	1% v/v	May be used in place of COC or MSO for enhanced efficacy where conditions and crops permit.
Nitrogen Fertilizer[1]	**Use Rate**	**Comments**
Ammonium Sulfate (AMS) OR	1-4 lb./A or 8.5–18 lb./100 gallons of spray solution	Use for improved control of difficult grass species. AMS is not to be used on all crops.
28-32% Urea Ammonium Nitrate (UAN)	1-2 qt./A	Use when a source of AMS is not available.
[1] The addition of liquid fertilizer is not recommended for the following crops: Arracasha, Arrowroot, Artichoke, Asparagus, Beet, Broccoli, Broccoli Raab, Brussels Sprout, Burdock, Bushberry, Caneberry, Cabbage, Canna, Cardon, Carrot, Cassava, Cauliflower, Cavalo Broccolo, Celeriac, Celery, Celtuce, Chayote, Chervil, Chicory, Chufa, Collards, Cranberry, Cucurbits, Dasheen, Eggplant, Fennel, Garlic, Ginger, Ginseng, Ground Cherry, Herbs, Hops, Horseradish, Kale, Leeks, Leren, Mizuna, Mustard Greens, Mustard Seed, Non-Bearing Food Crops, Onion (dry bulb), Parsley, Parsnip, Peach, Pepino, Pepper, Pimento, Potato, Radish, Rape Greens, Rhubarb, Rutabaga, Salsify, Sesame, Shallots (dry bulb), Skirret, Strawberry, Sweet Potato, Swiss Chard, Tanier, Tomatillo, Turmeric, Turnip and Yam.		

TABLE 2: CROP SPECIFIC USE DIRECTIONS, RESTRICTIONS AND LIMITATIONS FOR VAQUERO

Crops	Minimum Time from Application to Harvest (PHI)	Single Application Use Rates Per Acre	Adjuvant and/or AMS Use Instructions	Special Use Instructions
Alfalfa including: Seedling or Established Alfalfa Sainfoin Holy Clover Birdsfoot Trefoil	15 days before grazing, feeding or harvesting (cutting) for forage or hay	6-16 fl. oz.	COC/MSO at 1% v/v or NIS at 0.25% v/v AMS at 1-4 lb./A	•This product may be applied to alfalfa grown for seed, hay, silage, green chop, or direct grazing. •For weed control in established alfalfa, the minimum use rate is 10 fl. oz./A (.156 lb. a.i./A). **RESTRICTIONS:** • Do not apply more than 16 fl. oz./A in a single application. • Do not make more than 4 applications per year. • Do not apply more than 64 fl. oz./A (1.0 lb. a.i./A) per year. • For repeat applications, allow a minimum 14-day interval between applications. •Do not apply VAQUERO and 2,4-DB as a tank mix to alfalfa unless the 60-day feeding, grazing, and harvesting restriction on the 2,4-DB label can be observed. •Do not plant rotational crops until 30 days after application of VAQUERO.
Artichoke (Globe)	5 days	6-8 fl. oz.	NIS at 0.25% v/v	**RESTRICTIONS:** • Do not apply more than 8 fl. oz./A in a single application. • Do not make more than 4 applications per year. •Do not apply more than 32 fl. oz./A (0.5 lb a.i./A) per year. • For repeat applications allow a minimum 14-day interval between applications.
Asparagus	1 day	6-8 fl. oz.	NIS at 0.25% v/v	**RESTRICTIONS:** • Do not apply more than 8 fl. oz./A in a single application. • Do not make more than 4 applications per year. • Do not apply more than 32 fl. oz./A (0.5 lb a.i./A) per year. •For repeat applications allow a minimum 14-day interval between applications.

Crops	Minimum Time from Application to Harvest (PHI)	Single Application Use Rates Per Acre	Adjuvant and/or AMS Use Instructions	Special Use Instructions
Beans, Dry including: Bean *(Lupinus spp.)* Grain Sweet White White Sweet Bean *(Phaseolus spp.)* Field Kidney Lima (dry) Navy Pinto Tepary Bean *(Vigna spp.)* Adzuki Bean Black-eyed Pea Catjang Cowpea Crowder Pea Moth Bean Mung Bean Rice Bean Southern Pea Urd Bean Broad (dry) Chickpea (garbanzo) Guar Lablab Bean Lentil	30 days	6-16 fl. oz.	COC/MSO at 1% v/v or NIS at 0.25% v/v AMS at 1-4 lb./A	•Refer to Table 9 for reduced rate directions for the control of small annual grasses. •The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, Rhizome Johnsongrass, red rice, wild oats, volunteer cereals, and volunteer corn. **RESTRICTIONS:** • Do not apply more than 16 fl. oz./A in a single application. • Do not make more than 4 applications per year. • Do not apply more than 64 fl. oz./A (1.0 lb. a.i./A) per year. • For repeat application, allow a minimum 14-day interval between applications.
Bean, Succulent including: Bean *(Phaseolus spp.)* Broad Bean (succulent) Lima Bean (green) Bean *(vigna spp.)* Black-eyed Pea Cowpea Southern Pea	21 days	6-8 fl. oz.	NIS at 0.25% v/v	•Refer to Table 9 for reduced rate directions for the control of small annual grasses. •The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals and volunteer corn. **RESTRICTIONS:** •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than 1 application per year. •Do not apply more than 8 fl. oz./A (0.125 lb. a.i./A) per year.

Crops	Minimum Time from Application to Harvest (PHI)	Single Application Use Rates Per Acre	Adjuvant and/or AMS Use Instructions	Special Use Instructions
Beet, Garden	30 days	6-8 fl. oz.	NIS at 0.25% v/v	**RESTRICTIONS:** • Do not apply more than 8 fl. oz./A in a single application. • Do not make more than 4 applications per year. • Do not apply more than 32 fl. oz./A (0.50 lb. a.i./A) per year. •For repeat applications, allow a minimum 14-day interval between applications.
Brassica Vegetables, Head and Stem including: Broccoli Cabbage Cauliflower Brussels Sprouts	30 days	6-8 fl. oz.	NIS at 0.25% v/v	**RESTRICTIONS:** • Do not apply more than 8 fl. oz./A in a single application. • Do not make more than 4 applications per year. • Do not apply more than 32 fl. oz./A (0.5 lb. a.i./A) per year. •For repeat applications, allow a minimum 14-day interval between applications.
Bushberry, including: Aronia berry Blueberry, Highbush Chilean Guava Cranberry, Highbush Currant, Black Currant, Buffalo Currant, Native Currant, Red Elderberry European Barberry Gooseberry Honeysuckle, edible Huckleberry Jostaberry Juneberry Saskatoon berry Native currant Salai Sea Buckthorn Cultivars, varieties and/or hybrids of these	14 days	6-8 fl. oz.	NIS at 0.25% v/v	Apply at the base of the plant where grassy weeds are growing near the ground. **RESTRICTIONS:** •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 32 fl. oz./A (0.5 lb. a.i./A) per year. •For repeat applications allow a minimum 14-day interval between applications. •Do not apply to low growing berries. •Do not apply to Bushberry grown for root stock.

Crops	Minimum Time from Application to Harvest (PHI)	Single Application Use Rates Per Acre	Adjuvant and/or AMS Use Instructions	Special Use Instructions
Caneberry, including: Blackberry Loganberry Raspberry, black Raspberry, red Raspberry, wild Cultivars, varieties and/or hybrids of these.	7 days	6-8 fl. oz.	NIS at 0.25% v/v	Apply at the base of the plant where grassy weeds are growing near the ground. **RESTRICTIONS:** •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 32 fl. oz./A (0.5 lb. a.i./A) per year. •For repeat applications allow a minimum 14-day interval between applications. •Do not apply to low growing berries. •Do not apply to Caneberry grown for root stock.
Canola* *Not for use in California unless accompanied by a supplemental label	70 days	4-6 fl. oz.	NIS at 0.25% v/v	Crop injury may occur when VAQUERO is applied during the bloom period. **RESTRICTIONS:** •Do not apply more than 6 fl. oz./A in a single application. •Do not make more than 1 application per year. •Do not apply after crop has begun bolting.
Carrot	30 days	6-8 fl. oz.	NIS at 0.25% v/v	**RESTRICTIONS:** •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 32 fl. oz./A (0.5 lb. a.i./A) per year. •For repeat applications, allow a minimum 14-day interval between applications.

Crops	Minimum Time from Application to Harvest (PHI)	Single Application Use Rates Per Acre	Adjuvant and/or AMS Use Instructions	Special Use Instructions
Clover	15 days before grazing, feeding, or harvesting (cutting) for forage or hay	6-16 fl. oz.	NIS at 0.25% v/v	For use on clover grown in Idaho, Oregon, and Washington only. **RESTRICTIONS:** •Do not apply more than 16 fl. oz./A in a single application. •Do not make more than 2 applications per year. •Do not apply more than 16 fl. oz./A (0.25 lb. a.i./A) per year. •For repeat applications allow a minimum 14-day interval between applications.
Corn, Field For burn down of existing stand of Roundup Ready field corn or volunteer Roundup Ready field corn prior to replanting field corn See Directions for Use in Roundup Ready Field Corn (Burn down) in Table 6.	90 days	2 fl. oz.	COC/MSO at 1% v/v plus AMS at 1-4 lb./A	To control the existing stand, replant no sooner than 6 days after application. **RESTRICTIONS:** •Do not apply more than 2 fl. oz./A in a single application. •Do not make more than 1 application per year. •Do not apply more than 2 fl. oz./A (0.0312 lb. a.i./A) per year.
Cotton	60 days	6-16 fl. oz.	COC/MSO at 1% v/v or NIS at 0.25% v/v AMS at 1-4 lb./A	The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, Rhizome johnsongrass, red rice, wild oats, volunteer cereals, and volunteer corn. **RESTRICTIONS:** •Do not apply more than 16 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 64 fl. oz./A (1.0 lb. a.i./A) per year •For repeat applications allow a minimum 14-day interval between applications. •Do not graze treated fields or feed treated forage or hay to livestock.

Crops	Minimum Time from Application to Harvest (PHI)	Single Application Use Rates Per Acre	Adjuvant and/or AMS Use Instructions	Special Use Instructions
Cranberry	30 days	6-8 fl. oz.	NIS at 0.25% v/v	**RESTRICTIONS:** •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 32 fl. oz./A (0.5 lb. a.i./A) per year. •For repeat applications, allow a minimum 14-day interval between applications. •Do not apply between the "hook" stage and full fruit set.
Cucurbits, including: Cantaloupes (all) Chayote (fruit) Chinese Wax Gourd Citron Melon Cucumber Gherkin Gourd, edible Honeydew Melon Muskmelons (all) Pumpkin Squash (all) Watermelon	14 days	6-8 fl. oz.	NIS at 0.25% v/v	**RESTRICTIONS:** •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 32 fl. oz./A (0.5 lb. a.i./A) per year. •For repeat applications, allow a minimum 14-day interval between applications.
Fallow Land Conifer Trees (and other non-producing agricultural areas) Non-Crop or Non-Planted Areas	N/A	6-16 fl. oz.	COC/MSO at 1% v/v or NIS at 0.25% v/v AMS at 1-4 lb./A	•Do not plant any crop for 30 days after application unless VAQUERO is registered for use on that crop. Refer to additional instructions found under the sections titled CONIFER TREES or NON-CROP and NON-PLANTED AREAS. **RESTRICTIONS:** •Do not apply more than 16 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 64 fl. oz./A (1.0 lb. a.i./A) per year. •For repeat applications, allow a minimum 14-day interval between applications.

Crops	Minimum Time from Application to Harvest (PHI)	Single Application Use Rates Per Acre	Adjuvant and/or AMS Use Instructions	Special Use Instructions
Flax* *Not for use in California unless accompanied by a supplemental label	60 days	6-8 fl. oz.	NIS at 0.25% v/v	Apply prior to bloom. Crop injury may occur when VAQUERO is applied during the bloom period. **RESTRICTIONS:** •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than 2 applications per year. •Do not apply more than 16 fl. oz./A (0.25 lb. a.i./A) per year. •For repeat applications allow a minimum 14-day interval between applications.
Fruiting Vegetables (except Tomato), including: Eggplant Groundcherry Pepino Peppers (all) Tomatillo	20 days	6-8 fl. oz.	NIS at 0.25% v/v	**RESTRICTIONS:** Do not apply more than 8 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 32 fl. oz./A (0.5 lb. a.i./A) per year. •For repeat applications, allow a minimum 14-day interval between applications.
Garlic	45 days	6-8 fl. oz.	NIS at 0.25% v/v	•Use a minimum of 20 gallons per acre spray volume by ground. •Use a minimum of 10 gallons per acre spray volume by air in all states except California. **RESTRICTIONS:** **GROUND AND AIR APPLICATIONS** •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than 2 applications per year. •Do not apply more than 16 fl. oz./A (0.25 lb. a.i./A) per year. •For repeat applications, allow a minimum 14-day interval between applications. •For spot treatment, do not exceed the maximum rate allowed on a “per acre” basis or crop injury may occur.

Crops	Minimum Time from Application to Harvest (PHI)	Single Application Use Rates Per Acre	Adjuvant and/or AMS Use Instructions	Special Use Instructions
Garlic* *California Only	45 days	6-8 fl. oz.	NIS at 0.25 v/v	•Use a minimum of 20 gallons per acre spray volume by ground. •Use a minimum of 20 gallons per acre spray volume by air. •Observe a minimum of 14 days between applications of VAQUARO and liquid nitrogen or other herbicide applications. Injury to the crop may occur when shorter intervals are observed. **RESTRICTIONS:** GROUND AND AIR APPLICATIONS •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than 2 applications per year. •Do not apply more than 16 fl. oz./A (0.25 lb. a.i./A) per year. •For repeat applications, allow a minimum 14-day interval between applications. •Do not apply VAQUERO until the crop has at least two full leaves. •For spot treatment, do not exceed the maximum rate allowed on a "per acre" basis or crop injury may occur.
Garlic	For chemigation refer to the instructions found under the section titled **CHEMIGATION – ONIONS (Dry Bulbs and Green) AND GARLIC ONLY**			

Crops	Minimum Time from Application to Harvest (PHI)	Single Application Use Rates Per Acre	Adjuvant and/or AMS Use Instructions	Special Use Instructions
Herbs including: Angelica Balm Basil Borage Bumet Camomile Catnip Chervil (dried) Chive Chive, Chinese Clary Coriander (leaf) Costmary Cilantro (leaf) Curry (leaf) Dill (dillweed) Horehound Hyssop Lavender Lovage (leaf) Marigold Marjoram (Origanum spp.) Nasturtium Parsley (dried) Pennyroyal Rosemary Rue Sage Savory, Summer and Winter	14 days	6-8 fl. oz.	NIS at 0.25% v/v	VAQUERO has not been tested on all herbs and herb varieties. It is the responsibility of the user to test VAQUERO on a small portion of the crop to be treated before treating the entire field. Crop tolerance to VAQUERO should be verified on a small area of the herb crop, at the specified VAQUERO rate and with the same NIS that will be used on the herb field. Grass control may be acceptable without the addition of an adjuvant. If no crop response is evident seven (7) days after treatment, VAQUERO may be used on the entire field at the rate tested and with the same crop oil used in the tolerance test. **RESTRICTIONS:** •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 32 fl. oz./A (0.5 lb. a.i./A) per year. •For repeat applications allow a minimum 14-day interval between applications.
Hops	21 days	6-8 fl. oz.	NIS at 0.25% v/v	**RESTRICTIONS:** •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 32 fl. oz./A (0.5 lb. a.i./A) per year. •For repeat applications allow a minimum 14-day interval between applications.

Crops	Minimum Time from Application to Harvest (PHI)	Single Application Use Rates Per Acre	Adjuvant and/or AMS Use Instructions	Special Use Instructions
Leafy Petioles including: Cardoon Celery Celtuce Chinese Celery Fennel, Florence (finochio) Rhubarb Swiss Chard	30 days	6-8 fl. oz.	NIS at 0.25% v/v	**RESTRICTIONS:** •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 32 fl. oz./A (0.5 lb. a.i./A) per year. •For repeat applications allow a minimum 14-day interval between applications.
Leafy Brassica Greens including: Broccoli Raab Cabbage, Chinese (Bok Choy) Collards Kale Mizuna Mustard Greens Rape Greens Turnip Greens	14 days	6-8 fl. oz.	NIS at 0.25% v/v	**RESTRICTIONS:** •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 32 fl. oz./A (0.5 lb. a.i./A) per year. •For repeat applications, allow a minimum 14-day interval between applications.
Leafy Greens including: Amaranth Leafy Amaranth Tampala Arugula (roquette) Chervil Chrysanthemum, Garland Corn Salad Cress Garden Upland (yellow rock and winter) Dandelion Dock (sorrel) Endive (escarole) Lettuce, Head and Leaf Orach Parsley Purslane Garden Winter Radicchio (red chicory)	14 days	6-8 fl. oz.	NIS at 0.25% v/v	**RESTRICTIONS:** •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 32 fl. oz./A (0.50 lb. a.i./A) per year. •For repeat applications, allow a minimum 14-day interval between applications.

Crops	Minimum Time from Application to Harvest (PHI)	Single Application Use Rates Per Acre	Adjuvant and/or AMS Use Instructions	Special Use Instructions
Legume Vegetables, Edible Podded including: Bean *(Phaseolus spp.)* Runner Snap Wax Bean *(Vigna spp.)* Asparagus Chinese Longbean Moth Yardlong Jackbean Pea *(Pisum spp.)* Dwarf Edible pod Snow Sugar Snap Pigeon Sword Bean	21 days	6-8 fl. oz.	NIS at 0.25% v/v	For peas apply before bloom, but no later than 21 days before harvest. Refer to Table 9 for reduced rate directions for the control of small annual grasses. The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals, and volunteer corn. **RESTRICTIONS:** •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than one application per year. •Do not apply more than 8 fl. oz./A (0.125 lb. a.i./A) per year.
Mint	21 days	6-16 fl. oz.	COC/MSO at 1% v/v or NIS at 0.25% v/v AMS at 1-4 lb./A	See Table 8 for further instructions. **RESTRICTIONS:** •Do not apply more than 16 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 64 fl. oz./A (1.0 lb. a.i./A) per year. •For repeat applications, allow a minimum 14-day interval between applications.

Crops	Minimum Time from Application to Harvest (PHI)	Single Application Use Rates Per Acre	Adjuvant and/or AMS Use Instructions	Special Use Instructions
Mustard Seed* *Not for use in California unless accompanied by a supplemental label	75 days	4-6 fl. oz.	NIS at 0.25% v/v	Do not apply after crop has begun bolting. Crop injury may occur when VAQUERO is applied during the bloom period. **RESTRICTIONS:** •Do not apply more than 6 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 16 fl. oz./A (0.25 lb. a.i./A) per year. •For repeat applications, allow a minimum 14-day interval between applications.
Onions (Dry Bulbs Only)	45 days	6-16 fl. oz.	NIS at 0.25% v/v	Use a minimum of 20 gallons per acre spray volume by ground. Use a minimum of 10 gallons per acre spray volume by air in all states except California. For spot treatment, do not exceed the maximum rate allowed on a "per acre" basis or crop injury may occur. **RESTRICTIONS:** **GROUND APPLICATIONS.** •Do not apply more than 16 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 64 fl. oz./A (1.0 lb. a.i./A) per year. •For repeat applications, allow a minimum of 14-day interval between applications. **AIR APPLICATIONS** •Do not exceed 8 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 32 fl. oz./A (0.5 lb. a.i./A) per year. •For repeat applications, allow a minimum of 14-day.

Crops	Minimum Time from Application to Harvest (PHI)	Single Application Use Rates Per Acre	Adjuvant and/or AMS Use Instructions	Special Use Instructions
*Onions (Dry Bulbs Only) *California Only	45 days	6-16 fl. oz.	NIS at 0.25%v/v	Use a minimum of 20 gallons per acre spray volume by ground. Use a minimum of 20 gallons per acre spray volume by air. Do not apply VAQUERO until the crop has at least two full leaves. Observe a minimum of 14 days between applications of VAQUARO and liquid nitrogen or other herbicide applications. Injury to the crop may occur when shorter intervals are observed. For spot treatment, do not exceed the maximum rate allowed on a "per acre" basis or crop injury may occur. **RESTRICTIONS:** **GROUND APPLICATIONS.** •Do not apply more than 16 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 64 fl. oz./A (1.0 lb. a.i./A) per year. •For repeat applications, allow a minimum of 14-day interval between applications. **AIR APPLICATIONS** •Do not exceed 8 fl. oz./A in a single application. •Do not make more than 2 applications per year. •Do not apply more than 16 fl. oz./A (0.25 lb. a.i./A) per year. •For repeat applications, allow a minimum of 14-day interval between applications.
Onions (Dry Bulbs and Green)	For chemigation, refer to the instructions found under the section titled **CHEMIGATION – ONIONS (Dry Bulbs and Green) AND GARLIC ONLY**			

Crops	Minimum Time from Application to Harvest (PHI)	Single Application Use Rates Per Acre	Adjuvant and/or AMS Use Instructions	Special Use Instructions
Onions, Green including: Green Eschalots Green Shallots Japanese Bunching Onions Leeks Scallions or Spring Onions	14 days	6-8 fl. oz.	NIS at 0.25% v/v	**RESTRICTIONS:** •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 32 fl. oz./A (0.5 lb. a.i./A) per year. •For repeat applications, allow a minimum 14-day interval between applications.
Ornamentals	N/A	6-16 fl. oz.	NIS at 0.25% v/v	If VAQUERO is applied as a spot treatment, care should be taken to not exceed the maximum rate allowed on a "per acre" basis or crop injury may occur. Sugar maples cannot be tapped for syrup within one year of VAQUERO application. **RESTRICTIONS:** •Do not apply more than 16 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 64 fl. oz./A (1.0 lb. a.i./A) per year. •For repeat applications, allow a minimum of 14-day interval between applications.

Crops	Minimum Time from Application to Harvest (PHI)	Single Application Use Rates Per Acre	Adjuvant and/or AMS Use Instructions	Special Use Instructions
Non-Bearing Food Crops	N/A	6-8 fl. oz.	NIS at 0.25% v/v/	Refer to instructions found under the section titled **"NON-BEARING FOOD CROPS"**. Sugar maples cannot be tapped for syrup within one year of a VAQUERO application. If VAQUERO is applied as a spot treatment, care should be taken to not exceed the maximum rate allowed on a "per acre" basis or crop injury may occur. **RESTRICTIONS:** •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 32 fl. oz./A (0.5 lb. a.i./A) per year. •For repeat applications make on a minimum of a 14-day interval.
Pea, Dry including: Pea *(Pisum spp.)* Field Pigeon	30 days	6-8 fl. oz.	NIS at 0.25% v/v	Apply before bloom but not later than 30 days prior to harvest. Refer to Table 9 for reduced rate directions for the control of small annual grasses. Applications of VAQUERO to peas during bloom period could result in severe crop injury, including loss of yield and delayed maturity. The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals and volunteer corn. **RESTRICTIONS:** •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than one application per year. •Do not apply more than 8 fl. oz./A (0.125 lb. a.i./A) per year.

Crops	Minimum Time from Application to Harvest (PHI)	Single Application Use Rates Per Acre	Adjuvant and/or AMS Use Instructions	Special Use Instructions
Peas, Succulent including: Pea *(Pisum spp.)* English Pea Garden Pea Green Pea Pigeon Pea	21 days	6-8 fl. oz.	NIS at 0.25% v/v	Apply before bloom but not later than 21 days prior to harvest. Applications of VAQUERO to peas during the bloom period could result in severe crop injury, including loss of yield and delayed maturity. Refer to Table 9 for reduced rate directions for the control of small annual grasses. **RESTRICTIONS:** •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than 1application per acre per year. •Do not apply more than 8 fl. oz. (0.125 lb. a.i.) per acre per year.
Peach	14 days	6-8 fl. oz.	NIS at 0.25% v/v	**RESTRICTIONS:** •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 32 fl. oz./A (0.5 lb. a.i./A) per year. •For repeat applications allow a minimum 14-day interval between applications. •Do not apply to peaches grown for root stock.

Crops	Minimum Time from Application to Harvest (PHI)	Single Application Use Rates Per Acre	Adjuvant and/or AMS Use Instructions	Special Use Instructions
Peanut (including Perennial)	40 days	6-16 fl. oz.	COC/MSO at 1% v/v or NIS at 0.25% v/v AMS at 1-4 lb./A	The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, Rhizome Johnsongrass, red rice, wild oats, volunteer cereals, and volunteer corn. **RESTRICTIONS:** •Do not apply more than 16 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 64 fl. oz./A (1.0 lb. a.i./A) per year. •For repeat applications allow a minimum 14-day interval between applications.
Potato	30 days	6-16 fl. oz.	COC/MSO at 1% v/v or NIS at 0.25% v/v AMS at 1-4 lb./A	The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, Rhizome johnsongrass, red rice, wild oats, volunteer cereals, and volunteer corn. **RESTRICTIONS:** •Do not apply more than 16 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 64 fl. oz./A (1.0 lb. a.i./A) per year. •For repeat applications, allow a minimum 14-day interval between applications.

Crops	Minimum Time from Application to Harvest (PHI)	Single Application Use Rates Per Acre	Adjuvant and/or AMS Use Instructions	Special Use Instructions
Radish	15 days	6-8 fl. oz.	NIS at 0.25% v/v	**RESTRICTIONS:** •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than 2 applications per year. •Do not apply more than 16 fl. oz./A (0.25 lb. a.i./A) per year. •For repeat applications, allow a minimum 14-day interval between applications.
Root Vegetables (except Radish), including: Chicory Ginseng Horseradish Turnip	30 days	6-8 fl. oz.	NIS at 0.25% v/v	**RESTRICTIONS:** •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 32 fl. oz./A (0.5 lb. a.i./A) per year. •For repeat applications, allow a minimum 14-day interval between applications.
Safflower	70 days	6-8 fl. oz.	NIS at 0.25% v/v	**RESTRICTIONS:** •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 32 fl. oz./A (0.5 lb. a.i./A) per year. •For repeat applications allow a minimum 14-day interval between applications.
Sesame	14 days	6-8 fl. oz.	NIS at 0.25% v/v	**RESTRICTIONS:** •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 32 fl. oz./A (0.5 lb. a.i./A) per year. •For repeat applications allow a minimum 14-day interval between applications. •Do not apply during flowering.

Crops	Minimum Time from Application to Harvest (PHI)	Single Application Use Rates Per Acre	Adjuvant and/or AMS Use Instructions	Special Use Instructions
Shallots (Dry Bulbs Only)	45 days	6-8 fl. oz.	NIS at 0.25% v/v	Use a minimum of 20 gallons per acre spray volume by ground. Use a minimum of 10 gallons per acre spray volume by air in all states except California. For spot treatment, do not exceed the maximum rate allowed on a "per acre" basis or crop injury may occur. **RESTRICTIONS: GROUND AND AIR APPLICATIONS.** •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than 2 applications per year. •Do not apply more than 16 fl. oz./A (0.25 lb. a.i./A) per year. •For repeat applications, allow a minimum 14-day interval between applications.

Crops	Minimum Time from Application to Harvest (PHI)	Single Application Use Rates Per Acre	Adjuvant and/or AMS Use Instructions	Special Use Instructions
*Shallots (Dry Bulbs Only) *California Only	45 days	6--8 fl. oz.	NIS at 0.25% v/v	Use a minimum of 20 gallons per acre spray volume by ground. Use a minimum of 20 gallons per acre spray volume by air. Do not apply VAQUERO until the crop has at least two full leaves. Observe a minimum of 14 days between applications of VAQUARO and liquid nitrogen or other herbicide applications. Injury to the crop may occur when shorter intervals are observed. For spot treatment, do not exceed the maximum rate allowed on a “per acre” basis or crop injury may occur. **RESTRICTIONS** **GROUND AND AIR APPLICATIONS:** •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than 2 applications per year. •Do not apply more than 16 fl. oz./A (0.25 lb. a.i./A) per year. •For repeat applications, allow a minimum 14-day interval between applications.

Crops	Minimum Time from Application to Harvest (PHI)	Single Application Use Rates Per Acre	Adjuvant and/or AMS Use Instructions	Special Use Instructions
Soybean	60 days	3-16 fl. oz.	COC/MSO at 1% v/v or NIS at 0.25% v/v AMS at 1-4 lb./A	Refer to Table 9 for reduced rate directions for the control of small annual grasses. Refer to Table 7 for reduced rate directions for the control of volunteer corn according to corn height. Lowest use rate may not be effective on hard to control grass species. **RESTRICTIONS:** •Do not apply more than 16 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 64 fl. oz./A (1.0 lb. a.i./A) per year. •For repeat applications allow a minimum 14-day interval between applications. •Do not graze treated fields or feed treated forage or hay to livestock.
Strawberry	4 days	6-8 fl. oz.	NIS at 0.25% v/v	**RESTRICTIONS:** •Do not apply more than 8 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 32 fl. oz./A (0.5 lb. a.i./A) per year. •For repeat applications, allow a minimum 14-day interval between applications.

Crops	Minimum Time from Application to Harvest (PHI)	Single Application Use Rates Per Acre	Adjuvant and/or AMS Use Instructions	Special Use Instructions
Sugarbeet	40 days	6-16 fl. oz.	COC/MSO at 1% v/v or NIS at 0.25% v/v AMS at 1-4 lb./A	Refer to Table 9 for reduced rate directions for the control of small annual grasses. Refer to the instructions found in the section titled "Directions for Micro-Rate Applications to Sugarbeets". The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, Rhizome johnsongrass, red rice, wild oats, volunteer cereals, and volunteer corn. **RESTRICTIONS:** •Do not apply more than 16 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 64 fl. oz./A (1.0 lb. a.i./A) per year. •For repeat applications, allow a minimum 14-day interval between applications.
Sunflower	70 days	6-16 fl. oz.	COC/MSO at 1% v/v or NIS at 0.25% v/v AMS at 1-4 lb./A	The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, Rhizome johnsongrass, red rice, wild oats, volunteer cereals, and volunteer corn. **RESTRICTIONS:** •Do not apply more than 16 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 64 fl. oz./A (1.0 lb. a.i./A) per year. •For repeat applications, allow a minimum 14-day interval between applications.

Crops	Minimum Time from Application to Harvest (PHI)	Single Application Use Rates Per Acre	Adjuvant and/or AMS Use Instructions	Special Use Instructions
Sweet Potato, Yam and other tuberous and corm vegetables (except Potato), including: Artichoke – Chinese, Jerusalem Cassava – Bitter, Sweet Ginger	30 days	6-16 fl. oz.	NIS at 0.25% v/v	The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, Rhizome johnsongrass, red rice, wild oats, volunteer cereals, and volunteer corn. **RESTRICTIONS:** •Do not apply more than 16 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 64 fl. oz./A (1.0 lb. a.i./A) per year. •For repeat applications allow a minimum 14-day interval between applications.
Tomato	20 days	6-16 fl. oz.	NIS at 0.25% v/v	**RESTRICTIONS:** Do not apply more than 16 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 64 fl. oz./A (1.0 lb. a.i./A) per year. •For repeat applications allow a minimum 14-day interval between applications.

NON-BEARING FOOD CROPS

Do not apply VAQUERO to non-bearing fruit or nut crops that are grown for root stock.

Non-bearing fruit and nut crops are plants that will not bear fruit or nuts for at least one year following VAQUERO application.

Crop injury to non-bearing fruit and nut crops can occur if VAQUERO is improperly applied. VAQUERO should not be applied directly over the top of these plant types. Instead, spray should be directed at the base of the plant where grassy weeds are growing near the ground.

COMMON NAME	SCIENTIFIC NAME
Apples	*Malus spp.*
Berries	*Vaccinium spp.*
	Rubus spp.
Cherry, Sweet	*Prunus avium*
Citrus Fruits	*Citrus spp.*
Grapes	*Vitis spp.*
Olives	*Olea spp.*
Peach	*Prunus persica*
Pears	*Pyrus communis*
Prunes	*Prunus spp.*
Stone Fruits	*Prunus spp.*

COMMON NAME	SCIENTIFIC NAME
Strawberry	*Fragaria spp.*
Tree Nuts	
Almond	*Prunus dulcis*
Filbert	*Corylus maxima*
Pecan	*Carya illinoinensis*
Pistachio	*Pistacia vera*
Walnut	*Juglans spp.*

RESTRICTIONS:
•Do not apply more than 8 fl. oz./A in a single application.
•Do not make more than 4 applications per year.
•Do not apply more than 32 fl. oz./A (0.5 lb. a.i./A) per year.
•For repeat applications, allow a minimum 14-day interval between applications.
•Refer to Table 2 for crop specific Directions for Use.

CONIFER TREES

VAQUERO can be used to control labeled grasses in Christmas tree farms, conifer nurseries, and conifer plantations (but not in forests).

COMMON NAME	SCIENTIFIC NAME
Arborvitae, American	*Thula occidentalis*
Cedars	*Cedrus spp.*
Cypress	*Taxodium spp.*
Douglas Fir	*Pseudotsuga menziesii*
Firs	*Abies spp.*
Hemlock, Canadian/Eastern	*Tsuga canadensis*
Hemlock, Western	*Tsuga heterophylla*
Pines	*Pinus spp.*
Spruces	*Picea spp.*
Yew	*Taxus spp.*

RESTRICTIONS:
•Do not apply more than 16 fl. oz./A in a single application.
•Do not make more than 4 applications per year.
•Do not apply more than 64 fl. oz./A (1.0 lb. a.i./A) per year.
•For repeat applications, allow a minimum 14-day interval between applications.
•Refer to Table 2 for crop specific Directions for Use.

NON-CROP OR NON-PLANTED AREAS

The following areas are considered non-crop or non-planted areas: rights-of-way including railroads, highways, roads, dividers, medians, pipelines, public utility lines, pumping stations, transformer stations and substations, around airports, electric utilities, commercial buildings, manufacturing plants, storage yards, rail yards, fence lines, parkways and post-harvest croplands, also beneath greenhouse benches and around golf courses.

RESTRICTIONS:
•Do not apply more than 16 fl. oz./A in a single application.
•Do not make more than 4 applications per year.
•Do not apply more than 64 fl. oz./A (0.5 lb. a.i./A) per year.
•For repeat applications, allow a minimum 14-day interval between applications.
•Refer to Table 2 for crop specific Directions for Use.

TABLE 3: USE DIRECTIONS FOR ANNUAL GRASSES
(EXCEPT FOR ESTABLISHED ALFALFA AND MINT)

Apply only to actively growing grasses at recommended weed heights.

Apply when the first grass weed species in a mixed grass weed population reaches the recommended growth stage for treatment.

Use the high rate under heavy grass pressure and/or when grasses are at maximum height.

Grass Species	Scientific Name	Weed* Height (inches)	Rate (fl. oz./A)	High Rate [4]
Barnyardgrass	*Echinochloa crus-galli*	2-8	6	8
Broadleaf Signalgrass	*Brachiaria platyphylla*	2-6	6	8
Brome				
California	*Bromus carinatus*	2-6	6	8
Cheatgrass	*Bromus secalinus*	2-6	6	8
Downy	*Bromus tectorum*	2-6	6	8
Ripgut	*Bromus diandrus*	2-6	6	8
Canarygrass	*Phalaris canariensis*	1-4	6	8
Crabgrass				
Hairy	*Digitaria adscendens*	2-6**	6	8
Large	*Digitaria sanguinalis*	2-6**	6	8
Smooth	*Digitaria ischaemum*	2-6**	6	8
Southern	*Digitaria ciliaris*	2-6**	6	8
Crowfootgrass	*Dactyloctenium aegyptium*	2-6**	6	8
Fall Panicum	*Panicum dichotomiflorum*	2-8	6	8
Field Sandbur	*Cenchrus incertus*	2-6	6	8
Foxtail				
Giant	*Setaria faberi*	2-12	6	8
Green	*Setaria viridis*	2-8	6	8
Yellow	*Setaria glauca*	2-8	6	8
Goosegrass	*Eleusine indica*	2-6**	6	8
Itchgrass	*Rottboellia exaltata*	2-6	6	8
Junglerice	*Echinochloa colona*	2-6	6	8
Lovegrass (Stinkgrass)	*Eragrostis cilianensis*	2-6	6	8
Rabbitsfootgrass	*Polypogon monspeliensis*	1-4	6	8
Red Rice	*Oryza sativa*	1-3	6	8
Ryegrass				
Hardy	*Lolium remotum*	2-6	6	8
Italian	*Lolium multiflorum*	2-6	6	8
Seedling Johnsongrass	*Sorghum halepense*	4-10	6	8
Shattercane	*Sorghum bicolor*	6-18	6	8
Southwestern Cupgrass	*Eriochlola gracillis*	2-6	6	8
Sprangletop				
Amazon	*Leptochloa panicoides*	2-6	6	8
Bearded	*Leptochloa fascicularis*	2-6	6	8
Mexican	*Leptochloa uninervia*	2-6	6	8
Red	*Leptochloa filiformis*	2-6	6	8
Texas Panicum	*Panicum texanum*	2-6	6	8
Volunteer Cereals [3]				
Barley	*Hordeum vulgare*	2-6	6	8
Oats	*Avena sativa*	2-6	6	8
Rye	*Secale cereale*	2-6	6	8
Wheat	*Triticum aestivum*	2-6	6	8
Volunteer Corn [2]	*Zea mays*	4-12	3	6

Grass Species	Scientific Name	Weed* Height (inches)	Rate (fl. oz./A)	High Rate [4]
Volunteer Corn (S.R.) [1]	*Zea mays*	4-12	8	(suppression only)
Volunteer Corn [2]	*Zea mays*	12-24	4	8
Volunteer Grain Sorghum	*Sorghum bicolor*	8-12	6	8
Wild Oats	*Aven fatua*	2-6	6	8
Wild Proso Millet	*Panicum miliaceum*	2-10	6	8
Witchgrass	*Panicum capillare*	2-8	6	8
Woolly Cupgrass	*Eriochloa villosa*	2-8	6	8

*Generally, occurs between 3-leaf stage and tillering
**Length of lateral growth

(1) Sethoxydim resistant volunteer corn.

(2) Includes Roundup Ready, Liberty Link® and IMI-Corn® volunteer corn.

(3) When the cereal grain crop (such as wheat) is interseeded for crop establishment or is planted as wind breaks to aid crop establishment, the minimum VAQUERO use rate for control is 8 fl. oz./A.

(4) Rates higher than 8 fl. oz./A may be applied in certain geographic areas, environmental conditions, or cropping situations, where experience has shown that higher rates are needed for satisfactory control of annual grasses. In these situations, rates from 8 – 16 fl. oz./A may be applied. Do not apply more than 8 fl. oz./A of VAQUERO per application to the following crops: asparagus, carrot, cranberry, cucurbit, flax, fruiting vegetables (except tomato), garden beet, green onion, head and stem brassica vegetables, herbs, hops, leaf petioles, leafy brassica greens, leafy greens, non-bearing food crops, root vegetables, safflower, sesame and strawberry. Do not apply more than 6 fl. oz./A of VAQUERO per application to canola or mustard seed.

TABLE 4: DIRECTIONS FOR PERENNIAL GRASSES

- Make applications only to actively growing grasses at specified weed heights.
- Apply when the first grass weed species in a mixed grass weed population reaches the specified growth stage for treatment.
- Use the high rate when grasses are at maximum height and/or under heavy grass pressure.

Grass Species	Scientific Name	Weed Height (inches)	Rate (fl. oz./A)	High Rate
Bermudagrass	*Cynodon dactylon*			
First Application		3 (or up to 6" runners)	8	16
Repeat Application(s) (if regrowth occurs)		3 (or up to 6" runners)	8	16
Fescue, tall	*Festuca arundinacea*			
First Application		4-8	8	16
Repeat Application(s) (if regrowth occurs)		4-8	8	16
Foxtail Barley	*Hordeum jubatum*			
First Application		2-6	8	16
Repeat Application(s) (if regrowth occurs)		2-6	8	16
Orchardgrass	*Dactylis glomerata*			
First Application		4-8	8	16
Repeat Application(s) (if regrowth occurs)		4-8	8	16
Quackgrass*	*Elytrigia repens*			
First Application		4-12	8	16
Repeat Application(s) (if regrowth occurs)		4-12	8	16

Grass Species	Scientific Name	Weed Height (inches)	Rate (fl. oz./A)	High Rate
Rhizome Johnsongrass	*Sorghum halepense*			
First Application		12-24	8	16
Repeat Application(s) (if regrowth occurs)		6-18	6	8
Wirestem Muhly	*Muhlenbergia frondonsa*			
First Application		4-8	8	16
Repeat Application(s) (if regrowth occurs)		4-8	8	16
Perennial Bluegrass*				
Roughstalk	*Poa trivialis*			
Kentucky	*Poa prantensis*			
First Application		2-4	8	16
Repeat Application(s) (if regrowth occurs)		2-4	8	16
Bentgrass*	*Agrostis spp.*			
First Application		2-4	-	16
Repeat Application(s) (if regrowth occurs)		2-4	-	16

*Control of quackgrass, perennial bluegrass and bentgrass with VAQUERO may be enhanced by adding AMS at 2.5 – 4.0 lb/A.

TABLE 5: DIRECTIONS FOR ANNUAL BLUEGRASS CONTROL WITH VAQUERO

Grass Species	Scientific Name	Weed Stage	Rate (fl. oz./A)	High Rate
Annual Bluegrass	*Poa annua*	to 4-Leaf	6*	16

*Use a minimum of 8 fl. oz./A to control annual bluegrass in seedling and established alfalfa and mint.

- Grass needs to be actively growing at time of application(s). Apply under favorable soil moisture and humidity that exists within a few days after rainfall or within 7 days after irrigation.
- Apply at weed stage indicated on the label, as reduced control can be expected with more mature annual bluegrass.
- Use the high rate under heavy grass pressure and/or when annual bluegrass is more mature.
- Always add a crop oil concentrate at 1 qt./A by ground to the finished spray volume.

TABLE 6: DIRECTIONS FOR USE IN ROUNDUP READY FIELD CORN (BURNDOWN)

USE DIRECTIONS FOR USE IN ROUNDUP READY FIELD CORN (BURNDOWN)		
APPLICATIONS RATES		
GRASS SPECIES	WEED SIZE (inches)	Rate when applied alone or with glyphosate
Field Corn	Up to 12	2 fl. oz./A
•For control of existing stand of Roundup Ready field corn or volunteer Roundup Ready field corn prior to replanting field corn. •Care must be taken to avoid in-field boom (spray) overlaps or excessive crop injury may occur. •Replant no sooner than 6 days after application. •Adjuvant recommendations: COC/MSO at 1% v/v plus AMS at 1-4 lb./A. **RESTRICTIONS:** •Do not apply more than 2 fl. oz./A in a single application. •Do not make more than 1 application per year. •Do not apply more than 2 fl. oz./A (0.031 lb. a.i./A) per year.		

TABLE 7: DIRECTIONS FOR ROUNDUP READY VOLUNTEER CORN CONTROL IN ROUNDUP READY SOYBEANS WITH VAQUERO HERBICIDE TANK MIX

Roundup Ready Volunteer Corn Height (inches)	VAQUERO Rate fl. oz./A	Glyphosate(1) Rate	Adjuvant
<12	3	1-2 lb a.i./A (Approximately equivalent to 22-44 fl. oz./A of Roundup WeatherMAX® or 32-64 fl. oz./A of most generic glyphosate formulations)	COC, MSO, Oil-Nitrogen Blends, or NIS(2) may be used in this pattern. See Table 1 for appropriate rates. Use AMS or a suitable replacement at 8.5–17 lb. per 100 gallons of carrier volume.
12-18	4		
>18-24	5		

(1) Glyphosate formulation must be labeled for use on Roundup Ready soybeans.
(2) Reduced weed control may result from the use of a non-ionic surfactant.

TABLE 8: DIRECTIONS FOR ANNUAL AND PERENNIAL GRASS CONTROL IN ESTABLISHED ALFALFA AND MINT WITH VAQUERO

Grass Species	Weed Stage	Rate (fl. oz./A)	High Rate (fl. oz./A)
See Annual Grasses in Table 3 and Perennial Grasses Listed in Table 4	See Tables 3 and 4 for Annual and Perennial Weed Stage Information	10	16
RESTRICTIONS: •Do not apply more than 16 fl. oz./A in a single application. •Do not make more than 4 applications per year. •Do not apply more than 64 fl. oz./A (1.0 lb. a.i./A) per year. •For repeat applications, allow a minimum 14-day interval between applications.			

Mowing: The best control of annual grasses can be achieved by applying VAQUERO before grass weeds are mowed. Once a grass is mowed it becomes tougher to control, as much of the available leaf surface has been removed. In areas without a killing frost, some annuals can over-winter after having been mowed multiple times. These grasses form large crowns and may contain many viable buds. These grasses, even though they may be an annual grass, may require repeated application of VAQUERO for partial or complete control.

Irrigated Alfalfa and Mint: In established alfalfa and mint, irrigation practices can be very critical to the successful use of VAQUERO and may be necessary to initiate active growth of the weeds prior to application. Generally, applications 2-4 days following irrigation are most effective. More consistent grass control occurs when the irrigation occurs before the application is made but irrigation shortly after application (2 days) can be effective.

Aerial Application: Apply VAQUERO in a minimum of 10 GPA in established alfalfa and mint when applying by air.

Annual Grass Control: Apply VAQUERO at the grass sizes indicated in the Use Directions for Annual Grass Table and rates indicated above (10-16 fl. oz./A). If a grass has been cut, apply VAQUERO after active growth has resumed and regrowth has reached the minimum height and before it reaches the maximum height indicated. Apply before the alfalfa/mint canopy covers the grasses and interferes with the spray coverage. Some annual grasses are spring and summer germinating plants, while others are fall germinating plants, and the time they are actively growing and most susceptible to VAQUERO may vary from region to region. Also, some annuals germinate over an extended period of time, and because control of small grasses is desired, applications after each weed flush may be required. As a general rule, spray spring and summer germinating grasses as early in the season as possible, after initial green-up. Spray fall germinating weeds in the fall soon after they begin growing but before any damage is done due to frost. Late fall applications may be less effective due to environmental conditions, such as frost, slower plant growth, or the onset of flowering.

Perennial Grass Control: VAQUERO effectively controls perennial grasses such as bermudagrass, Johnsongrass, quackgrass, wirestem muhly, tall fescue, foxtail barley and orchardgrass. Due in part to lack of tillage, perennial grasses are more difficult to control in a perennial crop such as established alfalfa or mint. A program of repeated applications is usually necessary for best results. The best way to control perennial grasses is to do so in the year of stand establishment before rhizomes and stolons become large and difficult to kill.

Use the high rate when grasses are at or near maximum height and/or under heavy grass pressure.

Always add a crop oil concentrate at 1 qt./A by ground or 1% v/v (but not less than 1 pt./A) to the finished spray volume by air.

TABLE 9: DIRECTIONS FOR REDUCED RATE TO CONTROL SMALL ANNUAL GRASSES
IN CANOLA, DRY BEAN AND DRY PEA (INCLUDING SOYBEANS), EDIBLE PODDED LEGUME VEGETABLES, FLAX, MUSTARD SEED, SUCCULENT BEAN AND PEA AND SUGARBEET

- Make applications only to actively growing grasses at recommended weed heights.
- Apply when the first grass weed species in a mixed grass weed population reaches the recommended growth stage for treatment.
- Regrowth by tillering may occur if application is made when plants are stressed by lack of moisture, excessive moisture, and low temperatures and/or under very low humidity.

Grass Species	Scientific Name	Weed Height (inches)	Rate (fl. oz./A) (1)
Barnyardgrass	*Echinochloa crus-galli*	1-4	4
Broadleaf Signalgrass	*Brachiaria platyphylla*	1-4	5
Crabgrass			
Large	*Digitaria sanguinalis*	1-3*	4
Large	*Digitaria sanguinalis*	1-4*	5
Smooth	*Digitaria ischaemum*	1-3*	4
Smooth	*Digitaria ischaemum*	1-4*	5
Southern	*Digitaria ciliaris*	1-4*	5
Fall Panicum	*Panicum dichotomiflorum*	1-4	4
Foxtail			
Giant	*Setaria faberi*	1-4	4
Green	*Setaria viridis*	1-4	4
Millet	*Setaria italic*	1-4	5
Yellow	*Setaria glauca*	1-4	4
Seedling Johnsongrass	*Sorghum halepense*	1-6	5
Shattercane	*Sorghum bicolor*	4-10	4
Texas Panicum	*Panicum texanum*	1-4	5
Volunteer Cereals			
Barley	*Hordeum vulgare*	1 - 4	5
Oats	*Avena sativa*	1 - 4	5
Wheat	*Triticum aestivum*	1 - 4	5
Volunteer Corn**	*Zea mays*	4-12	2
Wild Oats	*Aven fatua*	1-4	5
Wild Proso Millet	*Panicum miliaceum*	1-6	4

* Length of lateral growth

** Not sethoxydim resistant corn

[1]Always add a crop oil concentrate at 1 qt./A by ground to the finished spray volume.

TANK MIXES

The labels for pesticides which may be tank mixed with VAQUERO are unique to the characteristics of those products and contain restrictions and limitations that may be more restrictive than the VAQUERO label in certain considerations. These may include, but are not limited to:

1. Geographic restrictions – not all products are registered for use in all areas and rates may vary from one region of labeled use to another
2. Crop rotation restrictions
3. Applicator certification requirements
4. Worker safety rules (i.e., protective clothing requirements, reentry time)
5. Soil type or soil characteristics
6. Maximum application rate or number of applications allowed per year
7. Rain-free period required
8. Application timing (E.G., PRE-HARVEST INTERVAL)
9. Do not exceed the total yearly rates.

THE MOST RESTRICTIVE LABELING OF ANY PRODUCT USED IN A TANK MIX MUST BE FOLLOWED.

TANK MIX APPLICATION OF VAQUERO AND BROADLEAF HERBICIDES FOR CONTROL OF GRASSES AND BROADLEAF WEEDS

- Apply only to actively growing grass and broadleaf weeds at recommended height or growth stage listed on each label.
- Apply when the first grass or broadleaf weed species in a mixed population reaches the recommended height or growth stage for treatment.
- Apply under favorable soil moisture and humidity, which exist a few days after rainfall or within seven days after irrigation.
- Always add the appropriate adjuvant to the spray mix at the rate recommended for each specific tank mix combination.
- Tank mix applications may sometimes result in reduced grass control and possible increases in crop injury as compared to either product used alone. If regrowth occurs, or an additional flush of new grass emerges, make a second application of VAQUERO as specified in the respective size and rate tables.
- Do not tank mix VAQUERO when broadleaf weeds are tall and/or dense enough to prevent proper grass coverage.

MIXING INSTRUCTIONS

Use the jar test to verify mixing and compatibility properties. Maintain agitation throughout the spray application. Unsatisfactory weed control may result due to improper mixing if continuous agitation is not maintained during application.

VAQUERO MIXING INSTRUCTIONS:

1. Fill clean spray tank 1/2-2/3 of desired level with clean water
2. While agitating, add the specified amount of VAQUERO post-emergence grass herbicide. Agitation should be vigorous enough to be visible on the surface of the water.
3. If tank mixing VAQUERO with other labeled herbicides, add water soluble packets first, followed by dry formulations, flowables, emulsifiable concentrates and then solutions. Prepare no more spray mixture than is required for the immediate spray operation.
4. Add any required adjuvants (NIS, COC/MSO, and/or nitrogen or AMS solution).
5. Add any drift reduction products, such as IN-PLACE® or CROSSHAIR®.
6. Finish filling spray tank to the desired level with water. Agitation should continue until the spray solution has been applied in its entirety.

INFORMATION ON ANTAGONISM

Tank mixes of VAQUERO with post-emergence broadleaf herbicides have shown some reduction or failure to control certain grass species which would have otherwise been controlled when VAQUERO is applied alone. Activity of the post-emergence broadleaf herbicide in the tank mix is not affected.

DIRECTIONS FOR MICRO-RATE APPLICATIONS TO SUGARBEETS

Multiple micro-rate applications of VAQUERO in tank mixtures will reduce rates of Betanex® or Betamix® and methylated seed oils may be applied by air or ground equipment to sugarbeets to control early germinating annual grasses listed above. The rate of Betanex or Betamix must not exceed 0.12 lb. ai/A (broadcast application) when in combination with these spray adjuvants. Note that maximum rate allowed varies depending on crop growth stage. The use of wetting agents or spray adjuvants with conventional rates (0.73-1.22 lb. ai/A) or multiple low rate (0.24-0.73 lb. ai/A) applications of Betanex or Betamix is prohibited on the Betanex or Betamix master label. Favorable climatic conditions (good conditions for plant growth and development) are essential for adequate weed control. All use precautions and restrictions on the Betanex or Betamix master labels must be followed.

DIRECTIONS FOR MICRO-RATE MULTIPLE APPLICATIONS OF VAQUERO TANK MIXES TO SUGARBEETS

Apply VAQUERO in broadcast applications only at a rate of 2-3 fl. oz./A in tank mixtures with either Betanex or Betamix following the directions for use on the tank mix partner label. A minimum of 3 sequential applications of 2 fl. oz./A or a minimum of 2 sequential applications of 3 fl. oz./A should be utilized for VAQUERO tank mixtures. A minimum of 3 sequential applications of Betanex or Betamix should be used. Accurate timing is essential; make initial application immediately after weeds emerge, and make repeat applications on 5 - 7day intervals. If weed control is not adequate due to climatic conditions, spray coverage or other factors, return to conventional application rates of VAQUERO (6 - 8 fl. oz./A) and add rates of Betanex or Betamix in tank mixtures with VAQUERO. A spray adjuvant is not recommended.

USE PRECAUTIONS FOR MICRO-RATE APPLICATIONS: (SEE VAQUERO, BETANEX AND BETAMIX MASTER LABEL FOR FURTHER USE PRECAUTIONS)

Not all weeds will be adequately controlled, even with favorable climatic conditions. Conventional rate of VAQUERO, Betanex or Betamix and/or hand labor may be required if multiple micro-rate applications do not adequately control weeds. Plugging of spray nozzles may be encountered due to the potential for formation of a precipitate in the spray solution that is often associated with micro-rate applications. Wilbur-Ellis Co. will not be responsible for any nozzle plugging that may occur with the use of multiple micro-rate applications. Methylated seed oils must not be added if the Betanex or Betamix rate exceeds 0.12 lb. ai/A broadcast, as the addition of methylated seed oils could increase the possibility of crop injury at dosage rates greater than 0.12 lb. ai/A.

GROUND APPLICATION

Use of sufficient spray volumes and pressure is essential to ensure complete coverage. Use a minimum of 10 gallons and a maximum of 20 gallons of spray solution per acre. Spray pressures should reflect a minimum of 30 psi and a maximum of 60 psi at the nozzle. Do not use flood nozzles.

AERIAL APPLICATION

Use of sufficient spray volumes is essential to ensure complete coverage. Use a minimum of 5 gallons and a maximum of 15 gallons of spray solution per acre.

DIRECTIONS FOR USE IN FALLOW LAND

VAQUERO may be used to control annual and perennial grasses in land that has been left fallow the previous year and other non-producing agricultural areas. Apply VAQUERO at 6 - 8 fl. oz./A for annual grasses and 8 - 16 fl. oz./A for perennial grasses. When both grass and broadleaf weeds are the target pest, VAQUERO may be tank mixed with 2,4-D ester, Dicamba® SG or Banvel® SGF Herbicide, or other broadleaf herbicides for broad-spectrum control. When both annual and perennial grasses occur in the same field, use a minimum of 8 fl. oz./A VAQUERO rate.

- Use a minimum spray volume of 15 gallons/A for ground applications and 5 gallons/A for aerial applications.
- Apply only to actively growing grasses when the first grass reaches the recommended weed height as specified by the Use Directions for Annual and Perennial Grasses section of this label.
- Annual grasses which emerge after the VAQUERO application will not be controlled, and a second application may be necessary.
- The control of perennial grasses may require more than one application in non-tilled areas.

RESTRICTIONS:

- Do not plant any crop for 30 days after application unless clethodim is registered for use in that crop.
- Do not apply to grasses that have tillered, formed seedheads or exceeded recommended growth stage.
- Do not use flood jet nozzles.
- Do not apply to drought-stressed grasses.
- Do not mow area for two weeks prior to or after VAQUERO application.
- Do not apply more than 16 fl. oz./A in a single application.
- Do not make more than 4 applications per year.
- Do not apply more than 64 fl. oz./A (1.0 lb. a.i./A) per year.
- For repeat applications, allow a minimum 14-day interval between applications.

TABLE 10: VAQUERO IN TANK MIXES TO CONTROL ANNUAL AND PERENNIAL GRASSES IN FALLOW LAND

Product	Application Rates/Acre[1]		Crop Oil Concentrate[2]	
	Annual Grasses	Perennial Grasses	Ground	Air
VAQUERO + 2,4-D ester or Dicamba	6 - 8 fl. oz.	8 - 16 fl. oz.	1% v/v	
	0.5 lb./A			
	See the Albaugh Dicamba SG or Banvel SGF label for rates.			

1. Refer to VAQUERO label for weed height and species control. Review the Dicamba Herbicide and 2,4-D labels for crop restrictions, use rates and weeds controlled.
2. Always use a crop oil concentrate or methylated seed oil containing at least 15% emulsifier at the listed rate (but not less than 1 pt./A) in the finished spray volume.

TABLE 11: DIRECTIONS FOR GRASS SUPPRESSION IN NON-CROP AREAS WITH VAQUERO

Grass Species	Weed Stage	Rate fl.oz./A	High Rate
Annual and perennial grasses that exceed height claimed for control on height charts.	Up to and including grasses in the seed head stage.	12	16
•Do not apply as part of a tank mix when applying VAQUERO for grass suppression. •Add a crop oil concentrate at 1 qt./A by ground to the finished spray volume.			

TABLE 12: DIRECTIONS FOR THE CONTROL AND/OR SUPPRESSION OF TALL FESCUE IN NATIVE PRAIRIE, WARM-SEASON, GRASS RESTORATION PROJECTS

Product	Product Rates	Grass Weeds Controlled/Suppressed		Weed Stages
		Common Name	Scientific Name	
VAQUERO	10 - 12 fl. oz./A	Tall Fescue	*Festuca arundinacea*	4 - 6 inches (40-60% green-up)

SPECIAL APPLICATION INSTRUCTIONS

- Burn or mow fields a minimum of 3 weeks prior to application to remove excess crop residue. Apply in the spring, at 40-60% green-up, prior to emergence of warm-season grasses. Do not mow area for 2 weeks after the VAQUERO application.
- Apply in a minimum of 15-20 gallons of water per acre at a spray pressure of 40-60 psi at the nozzle. Apply using flat fan or hollow cone nozzles. Do not use flood nozzles.
- Apply only to fields that have warm-season grasses established for two years. Applications of VAQUERO to emerged warm-season grasses may cause injury. Do not apply to warm-season grasses grown for seed.
- Use NIS at 0.25% v/v or COC/MSO at 1.0 qt./A or 1.0% v/v and AMS at 2.5-4.0 lb./A.
- Use of a non-ionic surfactant and AMS may reduce the risk of crop response or injury compared to COC or MSO adjuvants.
- Do not graze treated fields or feed treated forage and or hay to livestock. Do not plant any crop for 30 days after application, unless clethodim is registered for use in that crop.
- **NOTE:** VAQUERO applications are most effective if applied when average nighttime temperatures are consistently greater than or equal to 47° F.

TABLE 13: DIRECTIONS FOR THE SUPPRESSION OF TALL FESCUE SEED-HEADS IN NON-PRODUCING AGRICULTURAL AREAS

Product	Product Rate	Suppression	Application Timing
VAQUERO	1.5-2 fl. oz./A	Tall Fescue Seed-Heads *Festuca arundinacea*	50-90% Tall Fescue green-up
Adjuvant: VAQUERO must be applied with crop oil concentrate at 1 qt./A, plus a spray grade ammonium sulfate at 2.5-4 lb./A. Recommended Mixing Order: Thoroughly mix spray grade ammonium sulfate in water, add VAQUERO, then add crop oil concentrate.			

SPECIAL APPLICATION INSTRUCTIONS

- Apply at 50-90% tall fescue green-up.
- Use the higher VAQUERO rate if less tall fescue green matter is present.
- Do not mow area for two weeks after the VAQUERO application.
- Apply in a minimum of 15-20 gallons of water per acre at a spray pressure of 40-60 psi at the nozzle. Apply using flat fan or hollow cone nozzles. Do not use flood nozzles.
- 2,4-D ester may be added to this tank mix for broadleaf control (see the 2,4-D ester label for weeds controlled).
- Do not graze treated fields or feed treated forage and/or hay to livestock. Do not plant any crop for 30 days after application, unless clethodim is registered for use in that crop.

ORNAMENTALS: DIRECTIONS FOR USE

For ornamental plant uses, VAQUERO can be used to control labeled grass weeds in greenhouses, lathhouses, shadehouses, and around outdoor ornamentals, including nurseries, parks, roadside plantings, and structure landscapes.

IMPORTANT: VAQUERO successfully controls weeds in newly transplanted and established non-grassy ornamentals. Plant tolerance to VAQUERO at labeled rates has been found to be acceptable for the indicated genera and species listed below. Due to variability within species, crop growth stage, environmental conditions, and application techniques, it is recommended that the user determine if herbicide can be used safely on a few plants prior to widespread application. Neither the seller nor the manufacturer of VAQUERO have investigated the safety factor to ornamental plants not listed on the label.

The following plants have shown a tolerance for VAQUERO applications:

TABLE 14: TOLERANT PLANTS

ORNAMENTAL TREES

Common Name	Scientific Name
Alder, red	*Alnus oregona*
Ash	*Fraxinus spp.*
Basswood	*Tilia spp.*
Birch, European white	*Betula pendula*
Birch, river	*Betula nigra*
Birch, white	*Betula papyrifera*
Crabapple, flowering	*Malus halliana*
Dogwood, flowering	*Cornus, florida*
Golden chain tree	*Labumum anagyroides*
Maples	*Acer spp.*
Mulberry, white	*Morus alba*
Oaks	*Quercus spp.*
Olive, wild	*Elaeagnus angustifolia*
Redbud	*Cercis canadensis*
Sweet gum, American	*Liquidambar styraciflua*

GARDEN FLOWERS AND PLANTS

Common Name	Scientific Name
Ageratum	*Ageratum spp.*
Alyssum*, Sweet	*Lobularia maritime*
Asparagus fern	*Asparagus setaceus*
Bleeding heart	*Dicentra spectabilis*
Cast iron plant	*Aspidistra alatior*
Chrysanthemum	*Chrysanthemum spp.*
Cinquefoil	*Potentilla spp.*
Coleus	*Coleus spp.*
Coralbells	*Heuchera sanguinea*
Cranesbill	*Geranium spp.*
Dahlia	*Dahlia spp.*
Daisy, Trailing African	*Osteospermum fruticosum*
Daylily	*Hemerocallis spp.*
Dusty miller	*Senecio cinerarie*
Euonymus	*Euonymus spp.*
Gazania	*Gazania spp.*
Geranium, house	*Pelargonium hortorum*
Heather, False	*Cuphea hyssopifolia*
Hosta	*Hosta fortunei*
Iris	*Iris spp.*
Jasmine tobacco	*Nicotiana alata*
Loosestrife	*Lythrum salicaria*
Marigold	*Tagetes spp.*
Partridgeberry	*Mitchella rapens*
Petunia*	*Petunia hybride*
Phlox	*Phlox spp.*
Pinks	*Dianthus spp.*
Portulaca	*Portulaca grandiflora*
Salvia	*Salvia spp.*

Common Name	Scientific Name
Saxifrage	*Saxifraga spp.*
Sedum	*Sedum spp.*
Selloum	*Philodendron selloum*
Snapdragon*	*Antirrhinum majus*
Sweet flag	*Acorus gramineus*
Tickseed	*Coreopsis grandiflora*
Touch-me-not	*Impatiens spp.*
Verbena	*Verbena spp.*
Violet	*Viola spp.*
Yarrow, common	*Achillea millefolium*
Zinnia	*Zinnia elegans*

*Slight foliage or flower speckling has been observed on these species.

GROUND COVERS

Common Name	Scientific Name
Bugleweed, carpet	*Ajuga reptans*
Ivy, English	*Hedera helix*
Japanese spurge	*Pachysandra terminalis*
Lilyturf	*Liriope muscari*
Moneywort	*Lysimachia nummularia*
Mondo grass, white	*Ophiopogon jaburan*
Mondo grass, dwarf	*Ophiopogon japonicus*
Periwinkle, common	*Vinca minor*

SHRUBS

Common Name	Scientific Name
Abelia	*Abelia spp.*
Anise, purple	*Illicium floridenum*
Aucuba	*Aucuba spp.*
Azalea*	*Rhododendron spp.*
Bamboo	*Bambusa spp.*
Barberry, Japanese	*Berberis thunbargii*
Barberry, Magellan	*Berberis buxifolia*
Baryberry	*Myrica pensylvanica*
Bottlebrush	*Callistemon citrinus*
Boxwood, Common	*Buxus sempervirens*
Camellia, Common	*Camellia japonica*
Candytuft	*Iberis sempervirens*
Cleyera	*Cleyera japonica*
Coralberry	*Ardisia crenata*
Crape myrtle	*Lagerstroemia indica*
Coyote brush	*Baccharis pilularis*
Fig, creeping	*Ficus pumila*
Gardenia	*Gardenia spp.*
Holly	*Ilex spp.*
Honeysuckle	*Lonicera pileate*
Indian hawthorn	*Raphiolepis indica*
Jasmine	*Jasminum spp.*
Jasmine, Asiatic	*Trachelospermum asiaticum*
Jasmine, Star	*Trachelospermum jasminoides*
Juniper	*Juniperus spp.*
Lantana	*Lantana spp.*
Nandina *, Bamboo Heavenly	*Nandinia domestica*

Common Name	Scientific Name
Oleander, common	*Nerium oleander*
Oregon grape	*Mahonia aquifolium*
Photina	*Photina spp.*
Pittosporum	*Pittosporum spp.*
Podocarpus	*Podocarpus spp.*
Privet	*Liqustrum spp.*
Pyracantha	*Pyracantha spp.*
Rhododendron	*Rhododendron spp.*
Rose	*Spirea bumalda*
Sweet olive	*Osmanthus fregrens*
Viburnum	*Viburnum tinus*
Wisteria	*Wisteria spp.*
Yellow sage/Shrub Verbena	*Lantana camere*

*Slight foliage or flower speckling has been observed on these species.

TABLE 15: DIRECTIONS FOR CONTROL OF ANNUAL GRASSES IN ORNAMENTALS

- Apply only to actively growing grasses at recommended weed heights.
- Apply when the first grass weed species in a mixed grass weed population reaches the recommended growth stage for treatment.
- Use the high rate under heavy pressure and/or when grasses are at a maximum height.

Grass Species	Scientific Name	Weed* Height (inches)	Rate (fl. oz./A)(1)	High Rate(2)
Barnyardgrass	*Echinochloa crus-galli*	2-8	8	16
Broadleaf Signalgrass	*Brachiaria platyphylla*	2-6	8	16
Brome				
California	*Bromus carinatus*	2-6	8	16
Cheatgrass	*Bromus secalinus*	2-6	8	16
Downy	*Bromus tectorum*	2-6	8	16
Ripgut	*Bromus diandrus*	2-6	8	16
Canarygrass	*Phalaris canariensis*	1-4	8	16
Crabgrass				
Hairy	*Digitaria adscendens*	2-6**	8	16
Large	*Digitaria sanguinalis*	2-6**	8	16
Smooth	*Digitaria ischaemum*	2-6**	8	16
Southern	*Digitaria ciliaris*	2-6**	8	16
Crowfootgrass	*Dactyloctenium aegyptium*	2-6**	8	16
Fall Panicum	*Panicum dichotomiflorum*	2-8	8	16
Field Sandbur	*Cenchrus incertus*	2-6	8	16
Foxtail				
Giant	*Setaria faberi*	2-12	8	16
Green	*Setaria viridis*	2-8	8	16
Yellow	*Setaria glauca*	2-8	8	16
Foxtail Barley	*Hordeum jubatum*	2-6	8	16
Goosegrass	*Eleusine indica*	2-6**	8	16
Itchgrass	*Rottboellia exaltata*	2-6	8	16
Junglerice	*Echinochloa colona*	2-6	8	16
Lovegrass (Stinkgrass)	*Eragrostis cilianensis*	2-6	8	16
Rabbitsfootgrass	*Polypogon monspeliensis*	1-4	8	16
Red Rice	*Oryza sativa*	1-3	8	16
Ryegrass				
Hardy	*Lolium remotum*	2-6	8	16
Italian	*Lolium multiflorum*	2-6	8	16

Grass Species	Scientific Name	Weed* Height (inches)	Rate (fl. oz./A)(1)	High Rate(2)
Seedling Johnsongrass	*Sorghum halepense*	4-10	8	16
Shattercane	*Sorghum bicolor*	6-18	8	16
Southwestern Cupgrass	*Eriochlola gracillis*	2-6	8	16
Sprangletop				
Amazon	*Leptochloa panicoides*	2-6	8	16
Bearded	*Leptochloa fascicularis*	2-6	8	16
Mexican	*Leptochloa uninervia*	2-6	8	16
Red	*Leptochloa filiformis*	2-6	8	16
Texas Panicum	*Panicum texanum*	2-6	8	16
Volunteer Cereals				
Barley	*Hordeum vulgare*	2-6	8	16
Oats	*Avena sativa*	2-6	8	16
Rye	*Secale cereale*	2-6	8	16
Wheat	*Triticum aestivum*	2-6	8	16
Volunteer Corn	*Zea mays*	4-12	6	8
Volunteer Corn	*Zea mays*	12-24	8	16
Volunteer Grain Sorghum	*Sorghum bicolor*	8-12	8	16
Wild Oats	*Aven fatua*	2-6	8	16
Wild Proso Millet	*Panicum miliaceum*	2-10	8	16
Witchgrass	*Panicum capillare*	2-8	8	16
Woolly Cupgrass	*Eriochloa villosa*	2-8	8	16

*Generally, occurs between 3-leaf stage and tillering.
**Length of lateral growth.
(1) 8 fl. oz./A = approximately 0.2 fl. oz./1,000 sq. ft.
(2) (2) 16 fl. oz./A = approximately 0.4 fl. oz./1,000 sq. ft.

Add a non-ionic surfactant containing at least 80% active ingredient at the rate of 1 pt. per 50 gals (0.25% v/v).

TABLE 16: DIRECTIONS FOR CONTROL OF ANNUAL BLUEGRASS IN ORNAMENTALS

Grass Species	Scientific Name	Weed Stage	Rate (fl. oz./A)	High Rate
Annual Bluegrass	*Poa annua*	To 4-Leaf	6	16
•Apply under favorable soil moisture and humidity which exists within a few days after rainfall or within 7 days after irrigation. Grass needs to be actively growing at time of application(s). •Apply at weed stage indicated on the label, as reduced control can be expected with more mature annual bluegrass. •Use the high rate under heavy grass pressure and/or when annual bluegrass is more mature. Add a non-ionic surfactant containing at least 80% active ingredient at the rate of 1 pt. per 50 gals (0.25% v/v).				

TABLE 17: DIRECTIONS FOR CONTROL OF PERENNIAL GRASSES IN ORNAMENTALS

- Apply only to actively growing grasses at recommended weed heights.
- Apply when the first grass weed species in a mixed grass weed population reaches the recommended growth stage for treatment. Use the high rate under heavy grass pressure and/or when grasses are at maximum height.

Grass Species	Scientific Name	Weed Height (inches)	Rate (fl. oz./A)(1)	High Rate(2)
Bermudagrass *(Cynodon dactylon)*				
First Application		3 (or up to 6" runners)	8	16
Repeat Application(s) (if regrowth occurs)		3 (or up to 6" runners)	8	16
Quackgrass *(Elytrigia repens)*				
First Application		4-8	8	16
Repeat Application(s) (if regrowth occurs)		4-8	8	16
Rhizome Johnsongrass *(Sorghum halepense)*				
First Application		12-24	8	16
Repeat Application(s) (if regrowth occurs)		6-18	6	8
Wirestem Muhly *(Muhlenbergia frondonsa)*				
First Application		4-8	8	16
Repeat Application(s) (if regrowth occurs)		4-8	8	16

(1) 8 fl. oz./A = approximately 0.2 fl. oz./1,000 sq. ft.
(2) 16 fl. oz./A = approximately 0.4 fl. oz./1,000 sq. ft.

Add a non-ionic surfactant containing at least 80% active ingredient at the rate of 1 pt. per 50 gallons (0.25% v/v).

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in a cool, dry place in original container.

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

CONTAINER HANDLING:

Non-refillable containers (< 5 gallons): 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 and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Non-refillable containers (> 5 gallons): Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. 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 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 container (bulk): Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from the container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing process two more times.

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 the product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

ALL STATEMENTS MADE HEREIN ARE SUBJECT TO APPLICABLE LAW, AND TO THE EXTENT THERE IS ANY INCONSISTENCY OR CONTENTION, APPLICABLE LAW SHALL GOVERN.

The Directions for Use of the product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of many different factors including, without limitation, manner of use or application, weather, combination with other products, or crop conditions. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold Manufacturer and Seller harmless from any claims relating to such factors.

Seller warrants that this product conforms to the chemical description on the label. EXCEPT FOR THIS WARRANTY, THE PRODUCT IS FURNISHED "AS-IS", AND NEITHER SELLER NOR MANUFACTURER MAKES ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THE SELECTION, PURCHASE OR USE OF THIS PRODUCT; SELLER AND MANUFACTURER SPECIFICALLY DISCLAIM ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE BEYOND WHAT IS STATED ON THE LABEL. Buyer and User accept all risks arising from any use of this product, including without limitation, uses contrary to label instructions, or under conditions not reasonably foreseeable to (or beyond the control of) Seller or Manufacturer.

Neither Manufacturer nor Seller shall be liable for any incidental, consequential or special damages resulting from the use or handling of this product. THE EXCLUSIVE REMEDY OF THE BUYER OR USER, AND THE EXCLUSIVE LIABILITY OF MANUFACTURER AND SELLER, FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THIS PRODUCT, OR, AT THE ELECTION OF MANUFACTURER OR SELLER, THE REPLACEMENT OF THE PRODUCT.

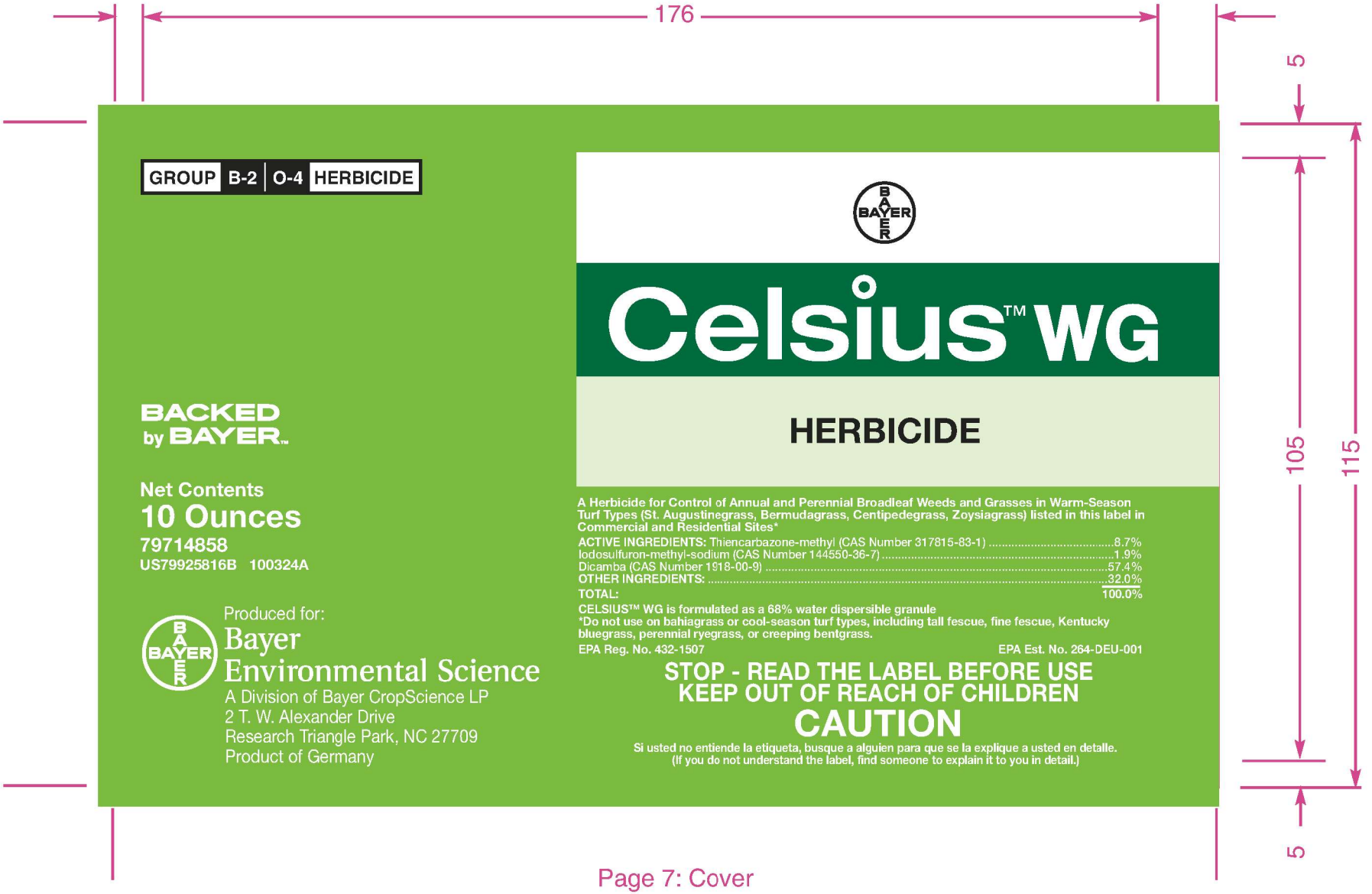
These Conditions of Sale and Limitation of Warranty and Liability shall be interpreted, unless otherwise required by the law of the state of purchase, in accordance with the laws of the State of California, excluding its conflicts of laws rules, and may not be amended by any oral or written agreement.

F-013120

In Case of Emergency, Call CHEMTREC:
(800) 424-9300

WILBUR-ELLIS COMPANY LLC
PO BOX 16458
FRESNO, CA 93755
(559) 442-1220

NET CONTENTS: 2.5 gallons



GROUP B-2 | O-4 HERBICIDE

BACKED by BAYER

Net Contents
10 Ounces
79714858
US79925816B 100324A

Produced for:
Bayer
Environmental Science
A Division of Bayer CropScience LP
2 T. W. Alexander Drive
Research Triangle Park, NC 27709
Product of Germany

Celsius™ WG

HERBICIDE

A Herbicide for Control of Annual and Perennial Broadleaf Weeds and Grasses in Warm-Season Turf Types (St. Augustinegrass, Bermudagrass, Centipedegrass, Zoysiagrass) listed in this label in Commercial and Residential Sites*

ACTIVE INGREDIENTS: Thiencarbazone-methyl (CAS Number 317815-83-1)	8.7%
Iodosulfuron-methyl-sodium (CAS Number 144550-36-7)	1.9%
Dicamba (CAS Number 1918-00-9)	57.4%
OTHER INGREDIENTS:	32.0%
TOTAL:	100.0%

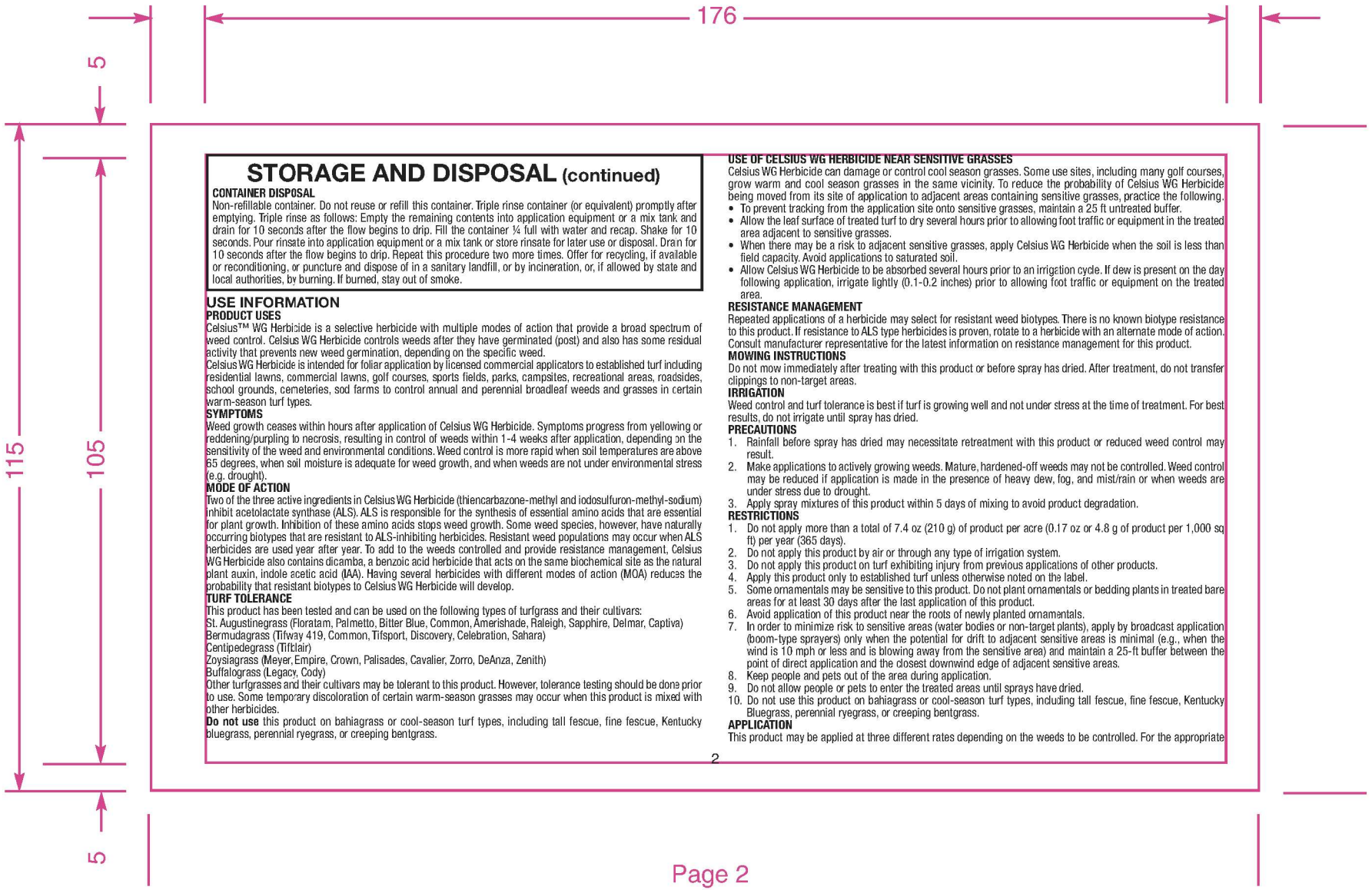
CELSIUS™ WG is formulated as a 68% water dispersible granule
*Do not use on bahiagrass or cool-season turf types, including tall fescue, fine fescue, Kentucky bluegrass, perennial ryegrass, or creeping bentgrass.

EPA Reg. No. 432-1507 EPA Est. No. 264-DEU-001

STOP - READ THE LABEL 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.)



STORAGE AND DISPOSAL (continued)

CONTAINER DISPOSAL

Non-refillable container. Do not reuse or refill this container. 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 ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

USE INFORMATION

PRODUCT USES

Celsius™ WG Herbicide is a selective herbicide with multiple modes of action that provide a broad spectrum of weed control. Celsius WG Herbicide controls weeds after they have germinated (post) and also has some residual activity that prevents new weed germination, depending on the specific weed.

Celsius WG Herbicide is intended for foliar application by licensed commercial applicators to established turf including residential lawns, commercial lawns, golf courses, sports fields, parks, campsites, recreational areas, roadsides, school grounds, cemeteries, sod farms to control annual and perennial broadleaf weeds and grasses in certain warm-season turf types.

SYMPTOMS

Weed growth ceases within hours after application of Celsius WG Herbicide. Symptoms progress from yellowing or reddening/purpling to necrosis, resulting in control of weeds within 1-4 weeks after application, depending on the sensitivity of the weed and environmental conditions. Weed control is more rapid when soil temperatures are above 65 degrees, when soil moisture is adequate for weed growth, and when weeds are not under environmental stress (e.g. drought).

MODE OF ACTION

Two of the three active ingredients in Celsius WG Herbicide (thiencarbazone-methyl and iodosulfuron-methyl-sodium) inhibit acetolactate synthase (ALS). ALS is responsible for the synthesis of essential amino acids that are essential for plant growth. Inhibition of these amino acids stops weed growth. Some weed species, however, have naturally occurring biotypes that are resistant to ALS-inhibiting herbicides. Resistant weed populations may occur when ALS herbicides are used year after year. To add to the weeds controlled and provide resistance management, Celsius WG Herbicide also contains dicamba, a benzoic acid herbicide that acts on the same biochemical site as the natural plant auxin, indole acetic acid (IAA). Having several herbicides with different modes of action (MOA) reduces the probability that resistant biotypes to Celsius WG Herbicide will develop.

TURF TOLERANCE

This product has been tested and can be used on the following types of turfgrass and their cultivars:

St. Augustinegrass (Floratam, Palmetto, Bitter Blue, Common, Amerishade, Raleigh, Sapphire, Delmar, Captiva)
Bermudagrass (Tifway 419, Common, Tifsport, Discovery, Celebration, Sahara)
Centipedegrass (Tiftlair)
Zoysiagrass (Meyer, Empire, Crown, Palisades, Cavalier, Zorro, DeAnza, Zenith)
Buffalograss (Legacy, Cody)

Other turfgrasses and their cultivars may be tolerant to this product. However, tolerance testing should be done prior to use. Some temporary discoloration of certain warm-season grasses may occur when this product is mixed with other herbicides.

Do not use this product on bahiagrass or cool-season turf types, including tall fescue, fine fescue, Kentucky bluegrass, perennial ryegrass, or creeping bentgrass.

USE OF CELSIUS WG HERBICIDE NEAR SENSITIVE GRASSES

Celsius WG Herbicide can damage or control cool season grasses. Some use sites, including many golf courses, grow warm and cool season grasses in the same vicinity. To reduce the probability of Celsius WG Herbicide being moved from its site of application to adjacent areas containing sensitive grasses, practice the following.

- To prevent tracking from the application site onto sensitive grasses, maintain a 25 ft untreated buffer.
- Allow the leaf surface of treated turf to dry several hours prior to allowing foot traffic or equipment in the treated area adjacent to sensitive grasses.
- When there may be a risk to adjacent sensitive grasses, apply Celsius WG Herbicide when the soil is less than field capacity. Avoid applications to saturated soil.
- Allow Celsius WG Herbicide to be absorbed several hours prior to an irrigation cycle. If dew is present on the day following application, irrigate lightly (0.1-0.2 inches) prior to allowing foot traffic or equipment on the treated area.

RESISTANCE MANAGEMENT

Repeated applications of a herbicide may select for resistant weed biotypes. There is no known biotype resistance to this product. If resistance to ALS type herbicides is proven, rotate to a herbicide with an alternate mode of action. Consult manufacturer representative for the latest information on resistance management for this product.

MOWING INSTRUCTIONS

Do not mow immediately after treating with this product or before spray has dried. After treatment, do not transfer clippings to non-target areas.

IRRIGATION

Weed control and turf tolerance is best if turf is growing well and not under stress at the time of treatment. For best results, do not irrigate until spray has dried.

PRECAUTIONS

1. Rainfall before spray has dried may necessitate retreatment with this product or reduced weed control may result.
2. Make applications to actively growing weeds. Mature, hardened-off weeds may not be controlled. Weed control may be reduced if application is made in the presence of heavy dew, fog, and mist/rain or when weeds are under stress due to drought.
3. Apply spray mixtures of this product within 5 days of mixing to avoid product degradation.

RESTRICTIONS

1. Do not apply more than a total of 7.4 oz (210 g) of product per acre (0.17 oz or 4.8 g of product per 1,000 sq ft) per year (365 days).
2. Do not apply this product by air or through any type of irrigation system.
3. Do not apply this product on turf exhibiting injury from previous applications of other products.
4. Apply this product only to established turf unless otherwise noted on the label.
5. Some ornamentals may be sensitive to this product. Do not plant ornamentals or bedding plants in treated bare areas for at least 30 days after the last application of this product.
6. Avoid application of this product near the roots of newly planted ornamentals.
7. In order to minimize risk to sensitive areas (water bodies or non-target plants), apply by broadcast application (boom-type sprayers) only when the potential for drift to adjacent sensitive areas is minimal (e.g., when the wind is 10 mph or less and is blowing away from the sensitive area) and maintain a 25-ft buffer between the point of direct application and the closest downwind edge of adjacent sensitive areas.
8. Keep people and pets out of the area during application.
9. Do not allow people or pets to enter the treated areas until sprays have dried.
10. Do not use this product on bahiagrass or cool-season turf types, including tall fescue, fine fescue, Kentucky Bluegrass, perennial ryegrass, or creeping bentgrass.

APPLICATION

This product may be applied at three different rates depending on the weeds to be controlled. For the appropriate

rate and species consult USE RATES FOR WEED CONTROL section. Use this product as a broadcast or spot treatment. For broadcast applications, use a minimum of 10 gallons of water per acre. For weed control in dense weed populations, control of weeds under adverse growing conditions, or control of mature weeds, higher spray volumes up to 60 gallons per acre should be used.

For spot applications, add the specified product rate of 0.057-0.113 oz (1.6-3.2g) to 1 gallon water. One gallon of spray solution will treat up to 1,000 sq ft.

For maximum weed control with broadcast applications, add non-ionic surfactant (NIS) at recommended rate to the spray solution. For difficult-to-control weeds, add methylated seed oil (MSO) at a rate of 0.5-1% v/v to the spray solution..

APPLICATION METHODS, MIXING AND COMPATIBILITY

Uniform, thorough spray coverage is important to achieve consistent weed control. Select spray nozzles and pressure that deliver at least MEDIUM spray droplets as indicated in nozzle manufacturer's catalogs and in accordance with ASAE Standard S-572. Nozzles that deliver COARSE spray droplets may be used to reduce spray drift provided spray volume per acre (GPA) is increased to maintain coverage of weeds.

Spray Solution pH

The efficacy of this product may be affected by the pH of the spray solution. A pH near 7.0 is ideal. If the pH is <6 and if product spray solution is not to be used within 24 hours, add a suitable buffer.

Mixing Instructions

This product must be applied with clean and properly calibrated equipment. Prior to adding this product, ensure that the spray tank, filters and nozzles have been thoroughly cleaned. Prepare only as much spray mixture as needed for application on the same day.

1. Fill spray tank with 25% to 50% of the required volume of water, and begin agitation prior to the addition of this product.
2. Before filling or adding any additional products, ensure full dispersion of this product.
3. If this product is applied in a tank mixture with other products, add this product to the spray tank first and ensure it is thoroughly dispersed before adding other products.
4. Continue to fill the spray tank with water to the desired volume and agitate while adding spray adjuvants and nitrogen fertilizers.
5. Continue agitation during application to ensure a uniform spray mixture.

Compatibility

If this product is to be tank-mixed with other products, compatibility should be tested prior to mixing. To test for compatibility, use a small container and mix a small amount (0.5 to 1 qt) of spray, combining all ingredients in the same ratio as the anticipated use. If any indications of physical incompatibility develop (precipitation, settling, changes in color), do not use this mixture for spraying. Indications of incompatibility may occur within 5-15 minutes after mixing. Read and follow the label of each tank mix product used for precautionary statements, directions for use, geographic and other restrictions.

TANK CLEANUP PROCEDURE

1. Drain the tank completely, then wash out tank, boom, and hoses with clean water. Drain again.
2. Fill the tank half full with clean water and add ammonia (i.e. 3% domestic ammonia solution) at a dilution rate of 1% (i.e. 1 gallon of domestic ammonia for every 100 gallons of rinsate). Completely fill the tank with water. Agitate/re-circulate and flush through boom and hoses. Leave agitation on for 10 minutes. Drain tank completely.
3. Repeat Step 2.
4. Remove nozzles and screens and soak them in a 1% ammonia solution. Inspect nozzles and screens and remove visible residues.
5. Flush tank, boom, and hoses with clean water.
6. Inspect tank for visible residues. If present, repeat Step 2.

WEED CONTROL INFORMATION

This product may be used to control a variety of broadleaf weeds and grasses in tolerant turf. Apply this product to susceptible weeds as listed in the Use Rates for Weed Control section. For certain weeds, a second application made 2-4 weeks later may be needed for complete weed control. Total amount of product applied in a calendar year (365 days) must not exceed 7.4 oz (210 g) of product per acre.

BERMUDAGRASS OVERSEEDED WITH RYEGRASS

Bermudagrass may be treated with broadcast applications of Celsius WG Herbicide prior to overseeding. Allow 14 days or more between broadcast application of Celsius WG Herbicide and overseeding with ryegrass. Intervals less than 14 days may cause undesirable reductions in the stand of ryegrass. When making spot applications, allow 28 days before overseeding ryegrass. This product may be used in conjunction with an application of Ronstar® prior to overseeding for post emergent and pre emergent weed control. Allow 4 months between the use of tank mix combinations of this product and Ronstar herbicides and ryegrass overseeding. When other products are mixed with this product, follow the most restrictive application interval prior to ryegrass overseeding on each label.

SEEDING AND SPRIGGING INTERVALS

Seeded Bermudagrass: This product may be applied to Bermudagrass up to 90 days prior to seeding without a significant reduction in Bermudagrass stand. For newly established stands of Bermudagrass, dc not apply this product for at least 4 weeks after emergence as injury may result.

Sprigged Bermudagrass: This product may be applied to sprigged Bermudagrass no sooner than 2 weeks after sprigging without a significant reduction in quality.

Seeded Zoysiagrass: This product may be applied to zoysiagrass up to 90 days prior to seeding without a significant reduction in zoysiagrass stand. For newly established stands of zoysiagrass, do not apply this product for at least 3 weeks after germination as injury may result.

DALLISGRASS CONTROL

This product in combination with REVOLVER® Herbicide (2 fl oz per gallon) and MSO at 1% v/v applied as a spot treatment in late summer or early fall will suppress and/or control dallisgrass. Applications made sooner may not be effective. Add the specified product rate of 0.085 - 0.113 oz (2.4 - 3.2 g) to enough water to create approximately one gallon of spray solution. One gallon of spray solution will treat up to 1,000 sq ft. Make a second application if regrowth is observed 30-60 days later, but do not exceed 0.17 oz (4.8 g) of product per 1,000 sq. ft. in a calendar year.

TANK MIX PARTNERS

Celsius WG Herbicide may be used in combination with Revolver® Herbicide, Sencor® Herbicide, Prograss® Herbicide, Ronstar® WSP Herbicide, Ronstar® FLO Herbicide, Acclaim® Extra Herbicide, Illoxan® Herbicide or Finale® Herbicide for post emergent control of many grasses and broad leaf weeds. Symptom development may be slow in weeds treated under cool conditions (soil temperatures 65 degrees or less). For increased speed of control during cool temperatures, the addition of a herbicide product containing carfentrazone (e.g., Quicksilver Herbicide), sulfentrazone (e.g., Dismiss Herbicide), or pyraflufen-ethyl (e.g., Octane Herbicide) can be added at specified label rates.

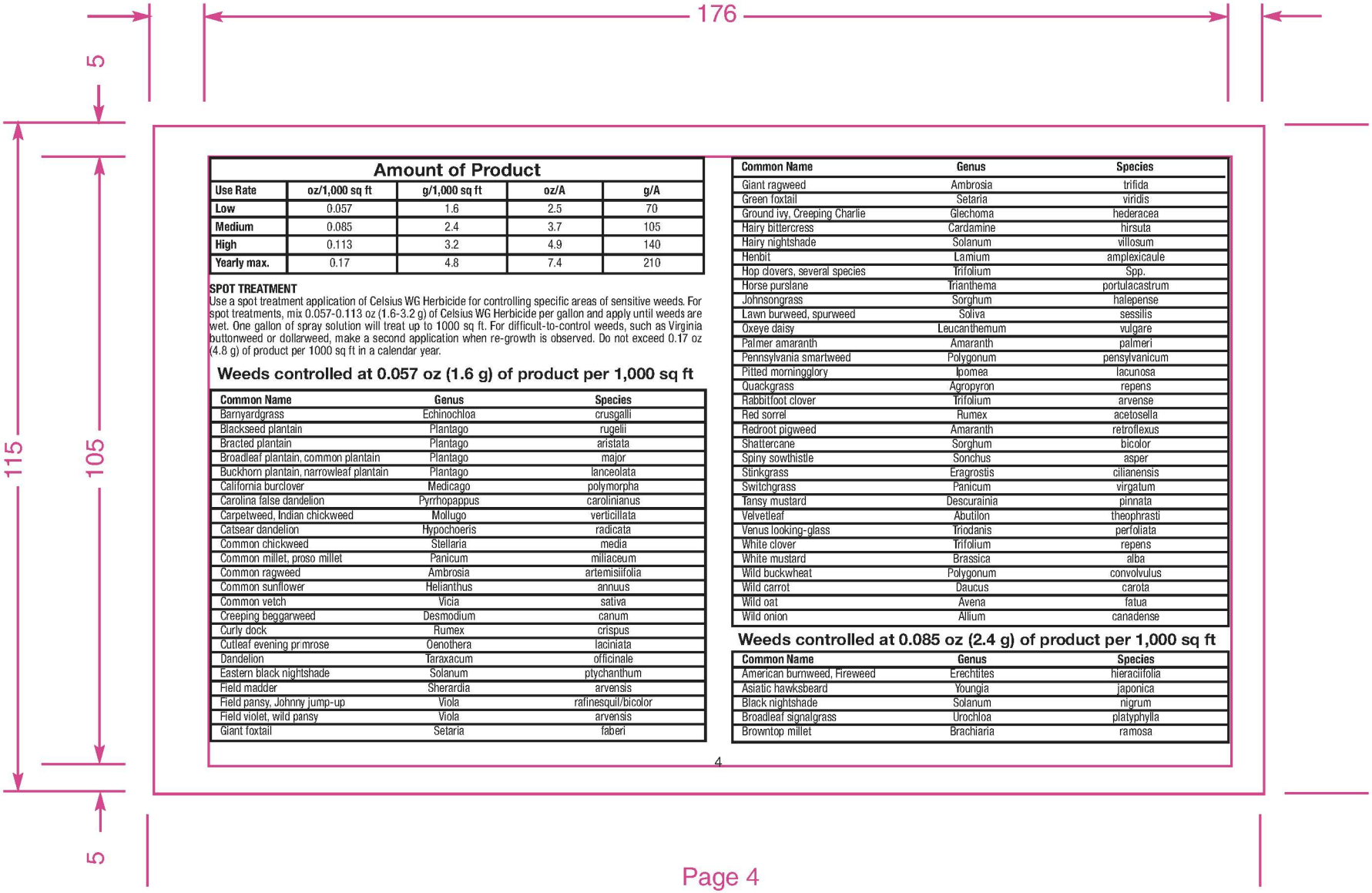
When using this product, follow the precautions and directions of both labels. When using other tank mixtures with this product, test physical and biological compatibility prior to use.

APPLICATIONS MAY BE MADE ONLY FOR USES FOR WHICH BOTH CELSIUS WG HERBICIDE AND THE TANK MIX PRODUCT ARE REGISTERED ON. WHEN APPLYING A TANK MIX WITH THIS PRODUCT, THE MOST HIGHLY RESTRICTIVE LABELING APPLIES.

USE RATES FOR WEED CONTROL

Broadcast Application

Rates for specific weeds are found in the Weeds Controlled tables below. Do not exceed the maximum amount of this product indicated in the table below in a calendar year (365 days).



Amount of Product

Use Rate	oz/1,000 sq ft	g/1,000 sq ft	oz/A	g/A
Low	0.057	1.6	2.5	70
Medium	0.085	2.4	3.7	105
High	0.113	3.2	4.9	140
Yearly max.	0.17	4.8	7.4	210

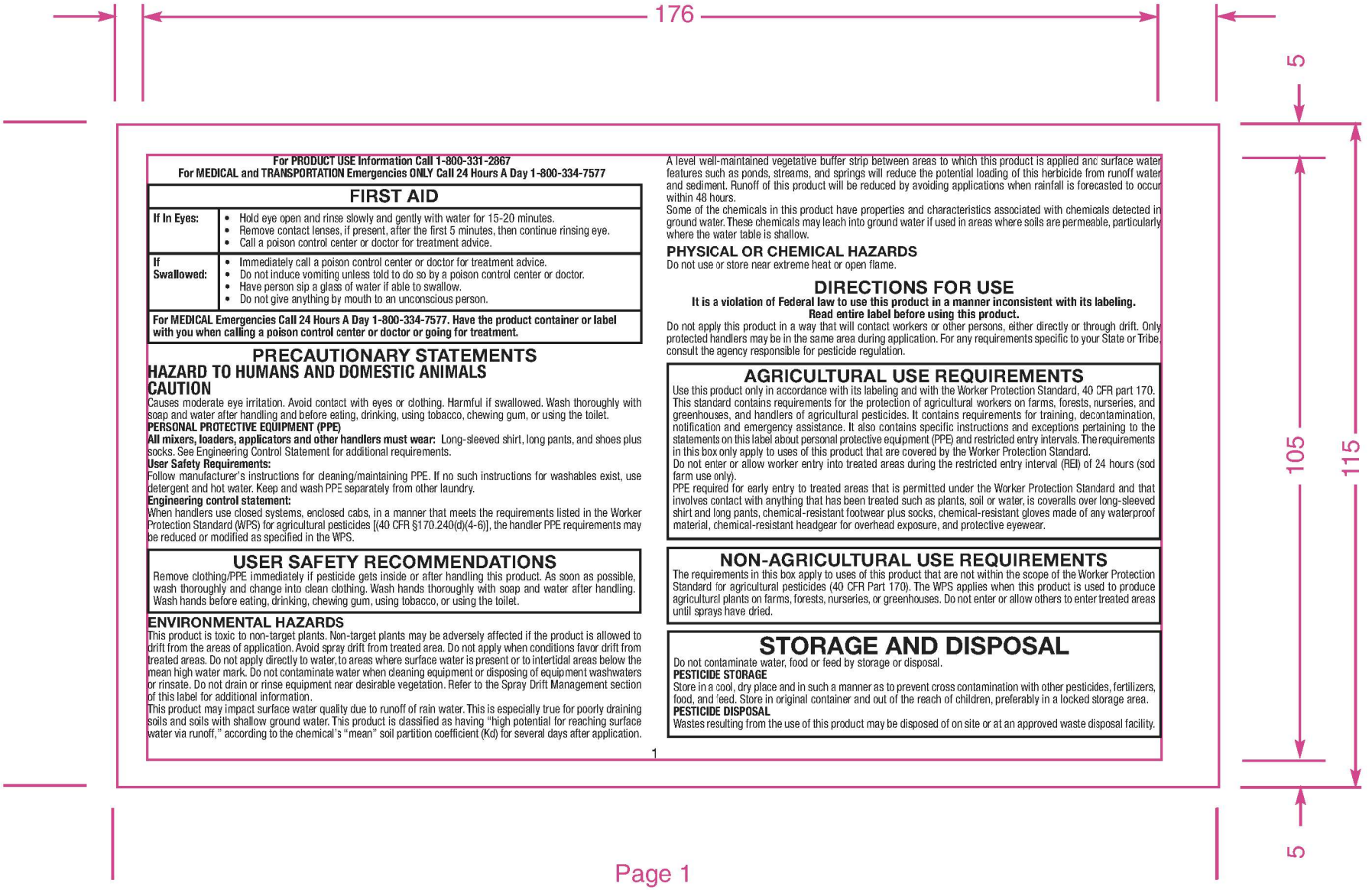
SPOT TREATMENT
Use a spot treatment application of Celsius WG Herbicide for controlling specific areas of sensitive weeds. For spot treatments, mix 0.057-0.113 oz (1.6-3.2 g) of Celsius WG Herbicide per gallon and apply until weeds are wet. One gallon of spray solution will treat up to 1000 sq ft. For difficult-to-control weeds, such as Virginia buttonweed or dollarweed, make a second application when re-growth is observed. Do not exceed 0.17 oz (4.8 g) of product per 1000 sq ft in a calendar year.

Weeds controlled at 0.057 oz (1.6 g) of product per 1,000 sq ft

Common Name	Genus	Species
Barnyardgrass	Echinochloa	crusgalli
Blackseed plantain	Plantago	rugelii
Bracted plantain	Plantago	aristata
Broadleaf plantain, common plantain	Plantago	major
Buckhorn plantain, narrowleaf plantain	Plantago	lanceolata
California burclover	Medicago	polymorpha
Carolina false dandelion	Pyrrhopappus	carolinianus
Carpetweed, Indian chickweed	Mollugo	verticillata
Catsear dandelion	Hypochoeris	radicata
Common chickweed	Stellaria	media
Common millet, proso millet	Panicum	miliaceum
Common ragweed	Ambrosia	artemisiifolia
Common sunflower	Helianthus	annuus
Common vetch	Vicia	sativa
Creeping beggarweed	Desmodium	canum
Curly dock	Rumex	crispus
Cutleaf evening primrose	Oenothera	laciniata
Dandelion	Taraxacum	officinale
Eastern black nightshade	Solanum	ptychanthum
Field madder	Sherardia	arvensis
Field pansy, Johnny jump-up	Viola	rafinesquil/bicolor
Field violet, wild pansy	Viola	arvensis
Giant foxtail	Setaria	faberi
Giant ragweed	Ambrosia	trifida
Green foxtail	Setaria	viridis
Ground ivy, Creeping Charlie	Glechoma	hederacea
Hairy bittercress	Cardamine	hirsuta
Hairy nightshade	Solanum	villosum
Henbit	Lamium	amplexicaule
Hop clovers, several species	Trifolium	Spp.
Horse purslane	Trianthema	portulacastrum
Johnsongrass	Sorghum	halepense
Lawn burweed, spurweed	Soliva	sessilis
Oxeye daisy	Leucanthemum	vulgare
Palmer amaranth	Amaranth	palmeri
Pennsylvania smartweed	Polygonum	pensylvanicum
Pitted morningglory	Ipomea	lacunosa
Quackgrass	Agropyron	repens
Rabbitfoot clover	Trifolium	arvense
Red sorrel	Rumex	acetosella
Redroot pigweed	Amaranth	retroflexus
Shattercane	Sorghum	bicolor
Spiny sowthistle	Sonchus	asper
Stinkgrass	Eragrostis	cilianensis
Switchgrass	Panicum	virgatum
Tansy mustard	Descurainia	pinnata
Velvetleaf	Abutilon	theophrasti
Venus looking-glass	Triodanis	perfoliata
White clover	Trifolium	repens
White mustard	Brassica	alba
Wild buckwheat	Polygonum	convolvulus
Wild carrot	Daucus	carota
Wild oat	Avena	fatua
Wild onion	Allium	canadense

Weeds controlled at 0.085 oz (2.4 g) of product per 1,000 sq ft

Common Name	Genus	Species
American burnweed, Fireweed	Erechtites	hieracifolia
Asiatic hawksbeard	Youngia	japonica
Black nightshade	Solanum	nigrum
Broadleaf signalgrass	Urochloa	platyphylla
Browntop millet	Brachiaria	ramosa



For PRODUCT USE Information Call 1-800-331-2867
For MEDICAL and TRANSPORTATION Emergencies ONLY Call 24 Hours A Day 1-800-334-7577

FIRST AID

If In Eyes:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If Swallowed:	• Immediately call a poison control center or doctor for treatment advice. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Have person sip a glass of water if able to swallow. • Do not give anything by mouth to an unconscious person.

For MEDICAL Emergencies Call 24 Hours A Day 1-800-334-7577. Have the product container or label with you when calling a poison control center or doctor or going for treatment.

PRECAUTIONARY STATEMENTS

HAZARD TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Causes moderate eye irritation. Avoid contact with eyes or clothing. Harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, using tobacco, chewing gum, or using the toilet.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

All mixers, loaders, applicators and other handlers must wear: Long-sleeved shirt, long pants, and shoes plus socks. See Engineering Control Statement for additional requirements.

User Safety Requirements:

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.

Engineering control statement:

When handlers use closed systems, enclosed cabs, 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.

USER SAFETY RECOMMENDATIONS

Remove clothing/PPE immediately if pesticide gets inside or after handling this product. As soon as possible, wash thoroughly and change into clean clothing. Wash hands thoroughly with soap and water after handling. Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

ENVIRONMENTAL HAZARDS

This product is toxic to non-target plants. Non-target plants may be adversely affected if the product is allowed to drift from the areas of application. Avoid spray drift from treated area. Do not apply when conditions favor drift from treated areas. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate. Do not drain or rinse equipment near desirable vegetation. Refer to the Spray Drift Management section of this label for additional information.

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having "high potential for reaching surface water via runoff," according to the chemical's "mean" soil partition coefficient (Kd) for several days after application.

A level well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of this herbicide from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

Some of the chemicals in this product have properties and characteristics associated with chemicals detected in ground water. These chemicals may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near extreme 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.
Read entire label before using this product.

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 same area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

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.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours (sod farm use only).

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 over long-sleeved shirt and long pants, chemical-resistant footwear plus socks, chemical-resistant gloves made of any waterproof material, chemical-resistant headgear for overhead exposure, and protective eyewear.

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, nurseries, or greenhouses. Do not enter or allow others to enter treated areas until sprays have dried.

STORAGE AND DISPOSAL

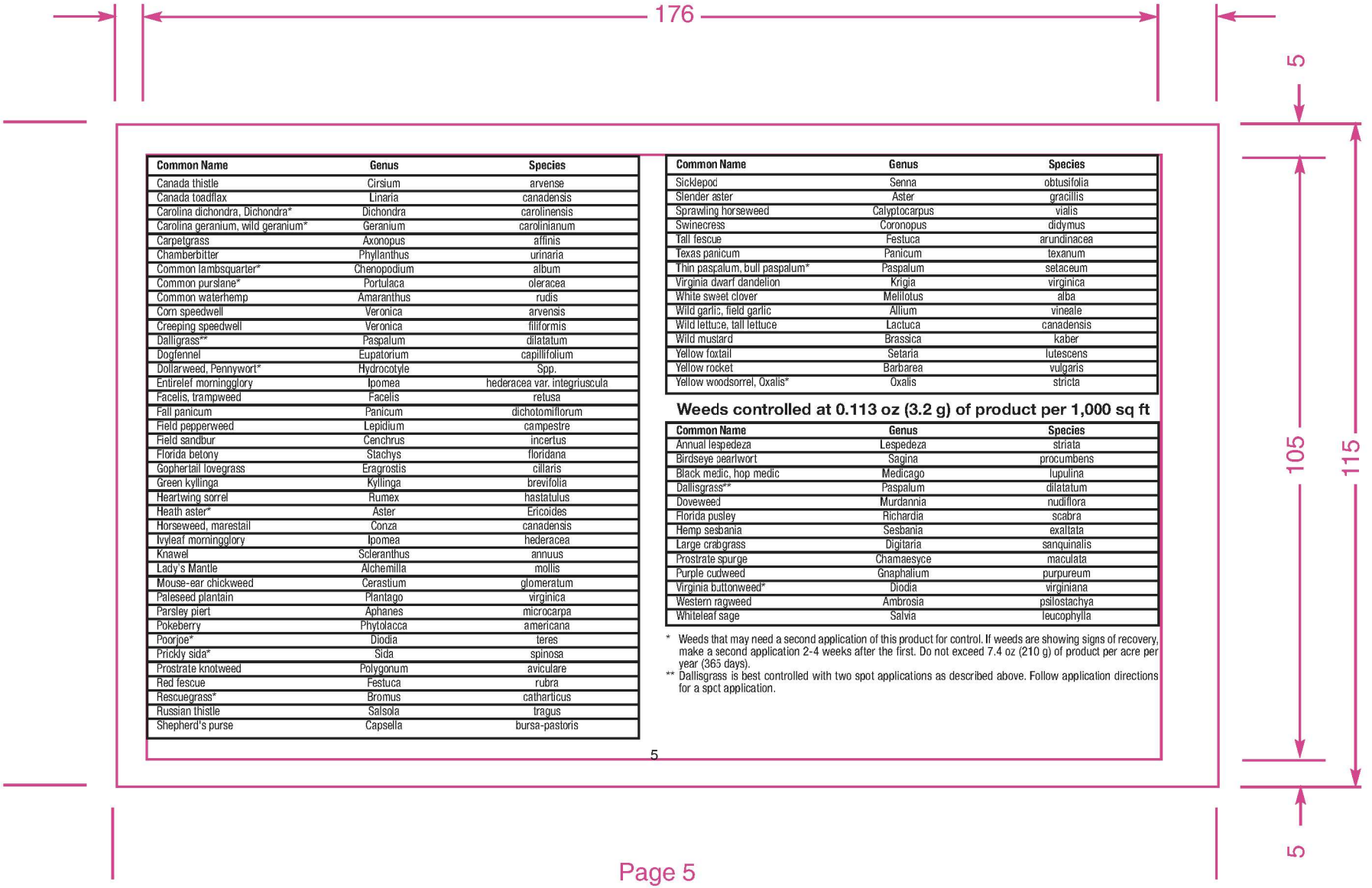
Do not contaminate water, food or feed by storage or disposal.

PESTICIDE STORAGE

Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

PESTICIDE DISPOSAL

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



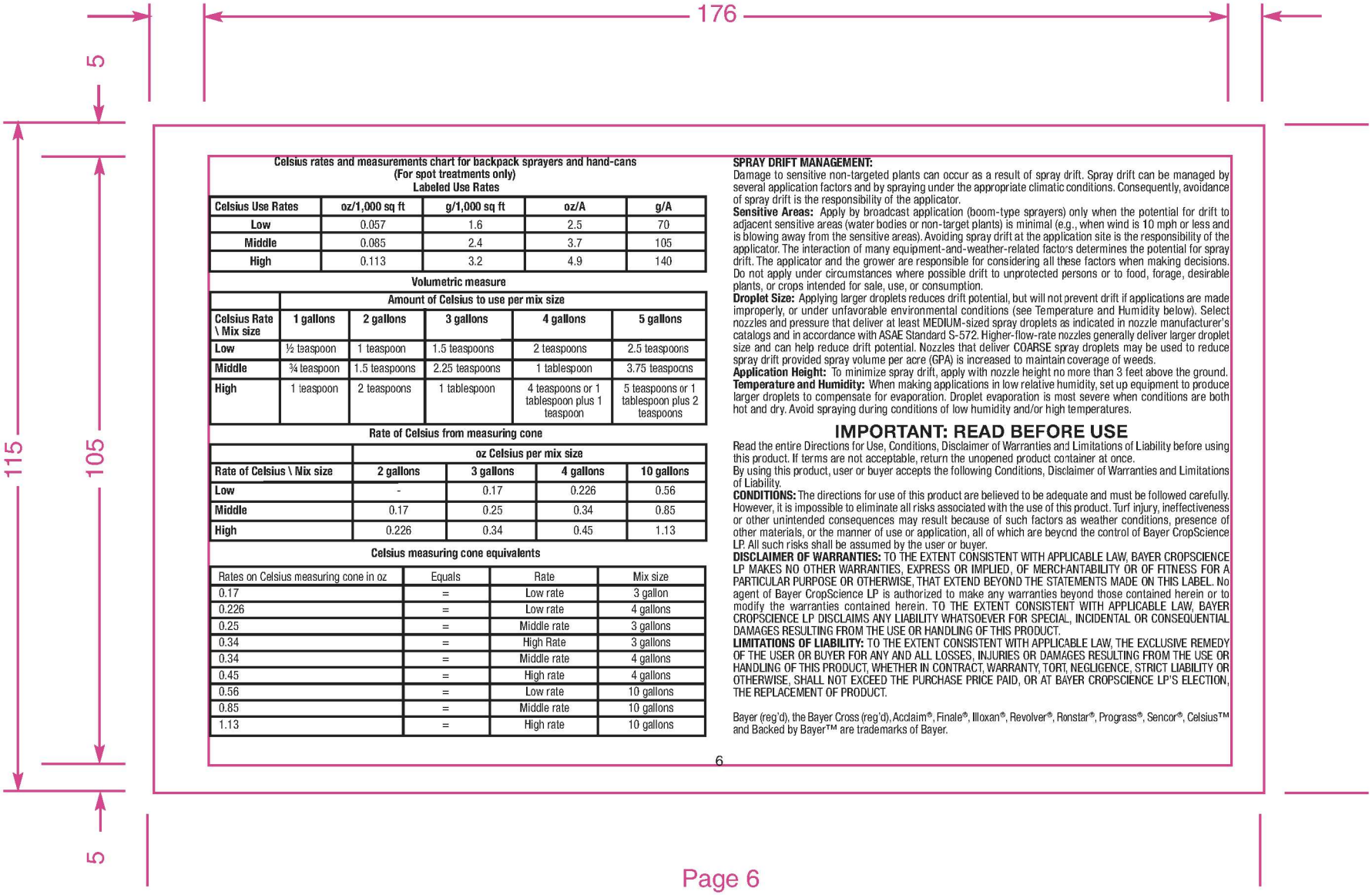
Common Name	Genus	Species
Canada thistle	Cirsium	arvense
Canada toadflax	Linaria	canadensis
Carolina dichondra, Dichondra*	Dichondra	carolinensis
Carolina geranium, wild geranium*	Geranium	carolinianum
Carpetgrass	Axonopus	affinis
Chamberbitter	Phyllanthus	urinaria
Common lambsquarter*	Chenopodium	album
Common purslane*	Portulaca	oleracea
Common waterhemp	Amaranthus	rudis
Corn speedwell	Veronica	arvensis
Creeping speedwell	Veronica	filiformis
Dalligrass**	Paspalum	dilatatum
Dogfennel	Eupatorium	capillifolium
Dollarweed, Pennywort*	Hydrocotyle	Spp.
Entirelef morningglory	Ipomea	hederacea var. integriuscula
Facelis, trampweed	Facelis	retusa
Fall panicum	Panicum	dichotomiflorum
Field pepperweed	Lepidium	campestre
Field sandbur	Cenchrus	incertus
Florida betony	Stachys	floridana
Gophertail lovegrass	Eragrostis	cillaris
Green kyllinga	Kyllinga	brevifolia
Heartwing sorrel	Rumex	hastatulus
Heath aster*	Aster	Ericoides
Horseweed, marestail	Conza	canadensis
Ivyleaf morningglory	Ipomea	hederacea
Knawel	Scleranthus	annuus
Lady's Mantle	Alchemilla	mollis
Mouse-ear chickweed	Cerastium	glomeratum
Paleseed plantain	Plantago	virginica
Parsley piert	Aphanes	microcarpa
Pokeberry	Phytolacca	americana
Poorjoe*	Diodia	teres
Prickly sida*	Sida	spinosa
Prostrate knotweed	Polygonum	aviculare
Red fescue	Festuca	rubra
Rescuegrass*	Bromus	catharticus
Russian thistle	Salsola	tragus
Shepherd's purse	Capsella	bursa-pastoris
Sicklepod	Senna	obtusifolia
Slender aster	Aster	gracillis
Sprawling horseweed	Calyptocarpus	vialis
Swinecress	Coronopus	didymus
Tall fescue	Festuca	arundinacea
Texas panicum	Panicum	texanum
Thin paspalum, bull paspalum*	Paspalum	setaceum
Virginia dwarf dandelion	Krigia	virginica
White sweet clover	Melilotus	alba
Wild garlic, field garlic	Allium	vineale
Wild lettuce, tall lettuce	Lactuca	canadensis
Wild mustard	Brassica	kaber
Yellow foxtail	Setaria	lutescens
Yellow rocket	Barbarea	vulgaris
Yellow woodsorrel, Oxalis*	Oxalis	stricta

Weeds controlled at 0.113 oz (3.2 g) of product per 1,000 sq ft

Common Name	Genus	Species
Annual lespedeza	Lespedeza	striata
Birdseye pearlwort	Sagina	procumbens
Black medic, hop medic	Medicago	lupulina
Dallisgrass**	Paspalum	dilatatum
Doveweed	Murdannia	nudiflora
Florida pusley	Richardia	scabra
Hemp sesbania	Sesbania	exaltata
Large crabgrass	Digitaria	sanquinalis
Prostrate spurge	Chamaesyce	maculata
Purple cudweed	Gnaphalium	purpureum
Virginia buttonweed*	Diodia	virginiana
Western ragweed	Ambrosia	psilostachya
Whiteleaf sage	Salvia	leucophylla

* Weeds that may need a second application of this product for control. If weeds are showing signs of recovery, make a second application 2-4 weeks after the first. Do not exceed 7.4 oz (210 g) of product per acre per year (365 days).

** Dallisgrass is best controlled with two spot applications as described above. Follow application directions for a spot application.



Celsius rates and measurements chart for backpack sprayers and hand-cans
(For spot treatments only)
Labeled Use Rates

Celsius Use Rates	oz/1,000 sq ft	g/1,000 sq ft	oz/A	g/A
Low	0.057	1.6	2.5	70
Middle	0.085	2.4	3.7	105
High	0.113	3.2	4.9	140

Volumetric measure

	Amount of Celsius to use per mix size				
Celsius Rate \ Mix size	1 gallons	2 gallons	3 gallons	4 gallons	5 gallons
Low	½ teaspoon	1 teaspoon	1.5 teaspoons	2 teaspoons	2.5 teaspoons
Middle	¾ teaspoon	1.5 teaspoons	2.25 teaspoons	1 tablespoon	3.75 teaspoons
High	1 teaspoon	2 teaspoons	1 tablespoon	4 teaspoons or 1 tablespoon plus 1 teaspoon	5 teaspoons or 1 tablespoon plus 2 teaspoons

Rate of Celsius from measuring cone

	oz Celsius per mix size			
Rate of Celsius \ Mix size	2 gallons	3 gallons	4 gallons	10 gallons
Low	-	0.17	0.226	0.56
Middle	0.17	0.25	0.34	0.85
High	0.226	0.34	0.45	1.13

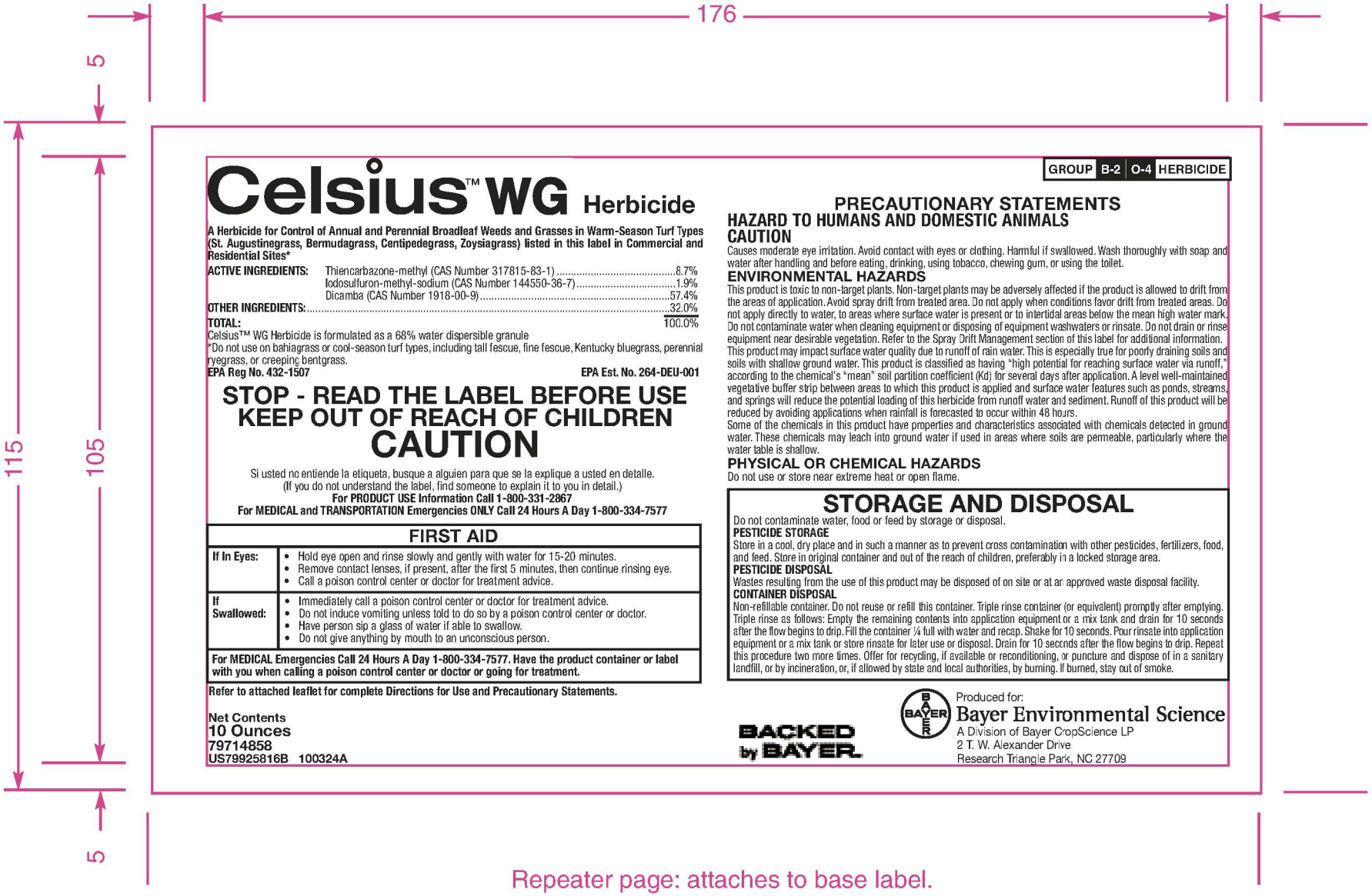
Celsius measuring cone equivalents

Rates on Celsius measuring cone in oz	Equals	Rate	Mix size
0.17	=	Low rate	3 gallon
0.226	=	Low rate	4 gallons
0.25	=	Middle rate	3 gallons
0.34	=	High Rate	3 gallons
0.34	=	Middle rate	4 gallons
0.45	=	High rate	4 gallons
0.56	=	Low rate	10 gallons
0.85	=	Middle rate	10 gallons
1.13	=	High rate	10 gallons

SPRAY DRIFT MANAGEMENT:
Damage to sensitive non-targeted plants can occur as a result of spray drift. Spray drift can be managed by several application factors and by spraying under the appropriate climatic conditions. Consequently, avoidance of spray drift is the responsibility of the applicator.
Sensitive Areas: Apply by broadcast application (boom-type sprayers) only when the potential for drift to adjacent sensitive areas (water bodies or non-target plants) is minimal (e.g., when wind is 10 mph or less and is blowing away from the sensitive areas). Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determines the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. Do not apply under circumstances where possible drift to unprotected persons or to food, forage, desirable plants, or crops intended for sale, use, or consumption.
Droplet Size: Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Temperature and Humidity below). Select nozzles and pressure that deliver at least MEDIUM-sized spray droplets as indicated in nozzle manufacturer's catalogs and in accordance with ASAE Standard S-572. Higher-flow-rate nozzles generally deliver larger droplet size and can help reduce drift potential. Nozzles that deliver COARSE spray droplets may be used to reduce spray drift provided spray volume per acre (GPA) is increased to maintain coverage of weeds.
Application Height: To minimize spray drift, apply with nozzle height no more than 3 feet above the ground.
Temperature and Humidity: When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry. Avoid spraying during conditions of low humidity and/or high temperatures.

IMPORTANT: READ BEFORE USE

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.
By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.
CONDITIONS: The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Turf injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Bayer CropScience LP. All such risks shall be assumed by the user or buyer.
DISCLAIMER OF WARRANTIES: TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BAYER CROPSCIENCE LP MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, THAT EXTEND BEYOND THE STATEMENTS MADE ON THIS LABEL. No agent of Bayer CropScience LP is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BAYER CROPSCIENCE LP DISCLAIMS ANY LIABILITY WHATSOEVER FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.
LIMITATIONS OF LIABILITY: TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, SHALL NOT EXCEED THE PURCHASE PRICE PAID, OR AT BAYER CROPSCIENCE LP'S ELECTION, THE REPLACEMENT OF PRODUCT.



Celsius™ WG Herbicide

A Herbicide for Control of Annual and Perennial Broadleaf Weeds and Grasses in Warm-Season Turf Types (St. Augustinegrass, Bermudagrass, Centipedegrass, Zoysiagrass) listed in this label in Commercial and Residential Sites*

ACTIVE INGREDIENTS:	Thiencarbazone-methyl (CAS Number 317815-83-1)	8.7%
	Iodosulfuron-methyl-sodium (CAS Number 144550-36-7)	1.9%
	Dicamba (CAS Number 1918-00-9)	57.4%
OTHER INGREDIENTS:		32.0%
TOTAL:		100.0%

Celsius™ WG Herbicide is formulated as a 68% water dispersible granule

*Do not use on bahiagrass or cool-season turf types, including tall fescue, fine fescue, Kentucky bluegrass, perennial ryegrass, or creeping bentgrass.

EPA Reg No. 432-1507 **EPA Est. No. 264-DEU-001**

STOP - READ THE LABEL 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.)

For PRODUCT USE Information Call 1-800-331-2867

For MEDICAL and TRANSPORTATION Emergencies ONLY Call 24 Hours A Day 1-800-334-7577

FIRST AID

If In Eyes:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If Swallowed:	• Immediately call a poison control center or doctor for treatment advice. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Have person sip a glass of water if able to swallow. • Do not give anything by mouth to an unconscious person.

For MEDICAL Emergencies Call 24 Hours A Day 1-800-334-7577. Have the product container or label with you when calling a poison control center or doctor or going for treatment.

Refer to attached leaflet for complete Directions for Use and Precautionary Statements.

Net Contents
10 Ounces
79714858
US79925816B 100324A

GROUP B-2 O-4 HERBICIDE

PRECAUTIONARY STATEMENTS

HAZARD TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Causes moderate eye irritation. Avoid contact with eyes or clothing. Harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, using tobacco, chewing gum, or using the toilet.

ENVIRONMENTAL HAZARDS

This product is toxic to non-target plants. Non-target plants may be adversely affected if the product is allowed to drift from the areas of application. Avoid spray drift from treated area. Do not apply when conditions favor drift from treated areas. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate. Do not drain or rinse equipment near desirable vegetation. Refer to the Spray Drift Management section of this label for additional information.

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having "high potential for reaching surface water via runoff," according to the chemical's "mean" soil partition coefficient (Kd) for several days after application. A level well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of this herbicide from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

Some of the chemicals in this product have properties and characteristics associated with chemicals detected in ground water. These chemicals may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

PHYSICAL OR CHEMICAL HAZARDS

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

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE

Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

PESTICIDE DISPOSAL

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

CONTAINER DISPOSAL

Non-refillable container. Do not reuse or refill this container. 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 ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

BACKED by BAYER.

Produced for:
Bayer Environmental Science
A Division of Bayer CropScience LP
2 T. W. Alexander Drive
Research Triangle Park, NC 27709

Repeater page: attaches to base label.

Specimen Label

Dow AgroSciences™

Turflon* Ester

Specialty Herbicide

*Trademark of Dow AgroSciences LLC

For the control of annual and perennial broadleaf weeds and kikuyugrass in ornamental turf.

Active Ingredient:	
triclopyr: 3,5,6-trichloro-2-pyridinyloxyacetic acid, butoxyethyl ester	61.6%
Inert Ingredients	38.4%
Total	100.0%

Contains petroleum distillates
Acid equivalent:
triclopyr - 44.3% - 4 lb/gal

EPA Reg. No. 62719-258

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.)

Precautionary Statements

Hazards to Humans and Domestic Animals

Harmful If Swallowed, Inhaled, Or Absorbed Through The Skin

Avoid contact with eyes, skin, or clothing. Avoid breathing mists or vapors. Avoid contamination of food.

Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category E on an EPA chemical resistance category selections chart.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as Barrier Laminate, Nitrile Rubber, Neoprene Rubber, or Viton
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

First Aid

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

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

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

Environmental Hazards

This pesticide is toxic to fish. 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 contaminate water when disposing of equipment washwaters.

Physical or Chemical Hazards

Do not use or store near heat or open flame.

Notice: Read the entire label. Use only according to label directions. **Before buying or using this product, read "Warranty Disclaimer" and "Limitation of Remedies" elsewhere on this label.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994. If you wish to obtain additional product information, visit our web site at www.dowagro.com.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
Read all Directions for Use carefully before applying.

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

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 interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do no enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

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

- Coveralls
- Chemical-resistant gloves such as Barrier Laminate, Nitrile Rubber, Neoprene Rubber, or Viton
- Shoes plus socks

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, nurseries, or greenhouses.

Entry Restrictions for Non-WPS Uses: For applications to turf other than sod farms, do not allow entry into treated areas until sprays have dried unless coveralls, chemical resistant gloves, and shoes plus socks are worn.

Storage and Disposal

Do not contaminate water, food, or feed by storage or disposal.
Storage: Store above 28°F or agitate before use.
Pesticide Disposal: Pesticide spray mixture or rinsate water that cannot be used according to label instructions must be disposed of according to applicable federal, state, or local procedures.
Container Disposal: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other approved state and local procedures. Plastic containers may also be disposed of by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.
General: Consult federal, state, or local disposal authorities for approved alternative procedures.

General Information

Turflon* Ester herbicide is recommended for the control of actively growing annual and perennial broadleaf weeds and kikuyugrass in perennial bluegrass, perennial ryegrass, or tall fescue ornamental turf including these turfgrasses in sod farms and golf courses.

General Use Precautions (Read Carefully Before Using)

In Arizona: The state of Arizona has not approved Turflon Ester for use on sod farms.

Local conditions may affect the use of herbicides. Consult your local specialist for advice in selecting treatments from this label to best fit local conditions.

Turflon Ester may injure certain turfgrass species. Do not apply to bahiagrass, bentgrass, bermudagrass, centipedegrass, St. Augustine grass, or zoysiagrass, unless turf injury can be tolerated.

Do not apply Turflon Ester directly to, or otherwise permit it to come in contact with or permit spray mists containing Turflon Ester to drift onto, cotton, grapes, tobacco, vegetable crops, flowers, fruit or orchard trees, shrubs, or other desirable broadleaf plants.

Do not apply Turflon Ester to exposed roots of shallow rooted trees and shrubs.

Do not apply to golf course greens.

For spot treatments, do not apply more than 2 quarts of Turflon Ester per acre in a single application.

Avoid Injurious Spray Drift: Applications should be made only when there is little or no hazard from spray drift. Very small quantities of spray, which may not be visible may seriously injure susceptible plants. Do not spray when wind is blowing toward susceptible crops or ornamental plants near enough to be injured. Spray drift can be reduced by spraying when wind velocity is low, keeping the spray boom as low as possible, using nozzles that deliver larger spray droplets, and by using higher volume sprays and lower pressures.

Do not apply to ditches used to transport irrigation water. Do not apply where runoff or irrigation water may flow onto susceptible crops.

Chemigation: Do not apply this product through any type of irrigation system.

Broadleaf Weeds Controlled By Turflon Ester Include:

black medic	lespedeza
bull thistle	matchweed
burdock	mustard
Canada thistle	oxalis
chicory	plantain
clover	ragweed
creeping beggarweed	smartweed
curly dock	sweet clover
dandelion	vetch
field bindweed	wild carrot
goldenrod	(Queen Annes lace)
ground ivy	wild lettuce
kikuyugrass †	wild violet
lambsquarters	yarrow

† See control of kikuyugrass under "Application Directions".

Mixing Instructions

When Turflon Ester is mixed with water it forms an emulsion (not a solution) and separation may occur unless the spray mixture is agitated continuously.

Add about one-half the required amount of clean water to the spray tank. Start agitation and add the recommended amount of Turflon Ester. Provide moderate agitation while completing the addition of water and during application.

Application Directions

Foliar sprays should be applied during warm weather, from early spring through fall, when weeds are actively growing. Broadleaf weeds germinate at different times. Only emerged weeds present at the time of application will be controlled. Newly seeded turf should be mowed 2 or 3 times before being treated. When making applications to mature plants, hard to control species, or during drought conditions, use higher rates. Application under drought conditions may provide less than desirable results. Use low pressure sprays to minimize spray drift. Do not water for 24 hours after application.

Reseeding Precaution: Do not reseed for 3 weeks after application (This precaution does not apply when bermudagrass turf is overseeded with perennial ryegrass at a minimum reseeding rate of 400 lb per acre.)

Broadcast Treatment of Ornamental Turf

Apply 1/2 to 1 quart per acre of Turflon Ester in enough water to provide uniform coverage of the target area to control actively growing broadleaf weeds growing in perennial bluegrass, perennial ryegrass, or tall fescue. **Do not** use on other turfgrass species (see "General Use Precautions") unless injury can be tolerated. To minimize turf injury, do not treat if turf is under heat or drought stress and make repeat applications at least 4 weeks apart.

Tank Mixing: To improve the spectrum of activity, Turflon Ester may be tank mixed at a rate of 1/2 to 1 pint per acre with recommended rates of low volatile amine or ester formulations of 2,4-D, MCPP, or other labeled postemergence broadleaf herbicides. Refer to tank mix product labels for specific use directions, precautions, and limitations before use.

Spot Treatment of Ornamental Turf

Mix 3/8 to 3/4 ounces of Turflon Ester per 1000 square feet in enough water to provide uniform coverage of the target area and apply at any time broadleaf weeds are susceptible. **Note:** Do not apply more than 2 quarts per acre or 1.5 ounces per 1000 square feet of Turflon Ester in a single application.

Control of Kikuyugrass

Apply Turflon Ester at a rate of 1/2 to 1 quart per acre. To improve activity , MSMA herbicide may be tank mixed with the 1/2 quart per acre rate of Turflon Ester. Three to four additional applications at 4 to 6 week intervals may be required to achieve control of kikuyugrass.

Suppression of Bermudagrass

Apply Turflon Ester at the rate of 1 quart per acre. Three to four additional applications at 4 week intervals will be required to give adequate suppression of bermudagrass and allow fescue or other desired turfgrass species to dominate. To improve suppression and control of bermudagrass, 1 quart per acre of Turflon Ester may be tank mixed with a post emergence grass herbicide registered for this use pattern. Three to four additional applications of this tank mix at 4 week intervals should be made to achieve control. Reseeding following application will accelerate the transition to cool season turf (see "Reseeding Precaution" above).

Warranty Disclaimer

Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Plant injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperature, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. All such risks shall be assumed by buyer.

Limitation of Remedies

The exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences' election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used

Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. In no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

The terms of the "Warranty Disclaimer" above and this "Limitation of Remedies" cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow AgroSciences or the seller is authorized to vary or exceed the terms of the "Warranty Disclaimer" or this "Limitation of Remedies" in any manner.

Dow AgroSciences LLC • Indianapolis, IN 46268 U.S.A.

EPA-Accepted: 08/18/00

Label Code: D02-086-026
Replaces Label: D02-086-025

Revisions:

1. Revised First Aid statements.
2. Added "Non-agricultural Use Requirements" box for non-WPS uses.
3. Added clarifying text for describing use sites.
4. Added application prohibition for golf course greens.
5. Modified the 3 week reseeding restriction to exclude the practice of overseeding bermudagrass turf with perennial ryegrass.

MATERIAL SAFETY DATA SHEET

Emergency Phone: 800-992-5994
Dow AgroSciences LLC
Indianapolis, IN 46268

Dow AgroSciences™

TURFLON* ESTER HERBICIDE

Effective Date: 19-Jun-07
Product Code: 88946
MSDS: 004788

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Turflon* Ester Herbicide

COMPANY IDENTIFICATION:
Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268-1189

2. HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW
Amber liquid. Combustible. Kerosene-like odor. May cause eye and skin irritation. Toxic to aquatic organisms.
EMERGENCY PHONE NUMBER: 800-992-5994

3. COMPOSITION/INFORMATION ON INGREDIENTS:

COMPONENT	CAS NUMBER	W/W%
Triclopyr Butoxy Ethyl Ester	064700-56-7	61.6
Kerosene	008008-20-6	31.0
Balance		7.4

4. FIRST AID:

EYES: Flush eyes thoroughly with water for several minutes. Remove contact lenses after initial 1-2 minutes and continue flushing for several minutes. If affects occur, consult a physician, preferably an ophthalmologist.

SKIN: Wash skin with plenty of water.

INGESTION: Do not induce vomiting. Call a physician and/or transport to emergency facility immediately.

INHALATION: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

NOTE TO PHYSICIAN: The decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE FIGHTING MEASURES:

FLASH POINT: 147°F (64C)
METHOD USED: TCC

FLAMMABLE LIMITS
LFL: Not determined
UFL: Not determined

EXTINGUISHING MEDIA: Water fog, foam, CO_2, and dry chemical.

FIRE & EXPLOSION HAZARDS: Combustible. Toxic, irritating vapors may be produced if product is involved in fire.

FIRE-FIGHTING EQUIPMENT: Use positive pressure self-contained breathing apparatus and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES:

ACTION TO TAKE FOR SPILLS/LEAKS: Keep out of streams and domestic water supplies. Absorb small spills in inert material such as sand. For large spills, dike the area and contact Dow AgroSciences at 800-992-5994.

7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep out of reach of children. Do not use near heat or open flame. Harmful if swallowed, inhaled, or absorbed through skin. Avoid contact with eyes, skin and clothing. Avoid breathing mists and vapors. Avoid contamination of food. Store above 28°F or agitate before use. Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. For handling relative to end-use of this product, read the product label for further information concerning the use of personal protective equipment (PPE) under the Worker Protection Standard of 1993. Store in the original container.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

These precautions are suggested for conditions where a potential for exposure exists. Emergency conditions may require additional precautions.

EXPOSURE GUIDELINE(S):
Triclopyr: Dow AgroSciences Industrial Hygiene Guide is 2 mg/M^3 as acid equivalent, DSEN.
Kerosene: Dow AgroSciences Industrial Hygiene Guide is 10 mg/M^3.

A D-SEN notation following the exposure guideline refers to the potential to produce dermal sensitization, as confirmed by human or animal data.

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guidelines. When respiratory protection is required for certain operations, use a NIOSH approved air-purifying respirator.

SKIN PROTECTION: Use protective clothing chemically resistant to this material. Selection of specific items such as faceshield, gloves, boots, apron, or full body suit will depend on operation. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly.

EYE/FACE PROTECTION: Use safety glasses.

APPLICATORS AND ALL OTHER HANDLERS: Refer to the product label for personal protective clothing and equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: >302°F (150C) initial
VAPOR PRESSURE: 0.1 mm @ 37.8C (kerosene)
VAPOR DENSITY: >1
SOLUBILITY IN WATER: Emulsifies
SPECIFIC GRAVITY: 1.08
APPEARANCE: Amber liquid
ODOR: Kerosene-like

10. STABILITY AND REACTIVITY:

STABILITY: (CONDITIONS TO AVOID) Combustible. Avoid sources of ignition if temperature is near or above flash point. Stable under normal storage conditions.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Acid, base, and oxidizing material.

HAZARDOUS DECOMPOSITION PRODUCTS: Nitrogen oxides, hydrogen chloride, and phosgene may result under fire conditions.

HAZARDOUS POLYMERIZATION: Not known to occur.

11. TOXICOLOGICAL INFORMATION:

POTENTIAL HEALTH EFFECTS: This section includes possible adverse effects, which could occur if this material is not handled in the recommended manner.

EYE: May cause slight temporary eye irritation. Corneal injury is unlikely.

SKIN: Prolonged or repeated contact may cause skin irritation. Prolonged or frequently repeated skin contact may cause allergic skin reactions in some individuals. With the dilute mix, no allergic skin reaction is expected. Prolonged skin contact is unlikely to result in absorption of harmful amounts. Repeated skin contact may result in absorption of harmful amounts. The LD_{50} for skin absorption is >2000 mg/kg (rabbits) and >5000 mg/kg (rats).

INGESTION: Low toxicity if swallowed. The oral LD_{50} for rats is 1581 mg/kg (males) and 1338 mg/kg (females). Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia.

INHALATION: Excessive exposure may cause irritation to upper respiratory tract (nose and throat). Kerosene may cause central nervous system effects.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS:
Triclopyr BEE, in animals, effects have been reported on the following organs: blood, kidney, and liver.

CANCER INFORMATION: Triclopyr BEE did not cause cancer in laboratory animals. In a lifetime animal dermal carcinogenicity study, an increased incidence of skin tumors was observed when kerosene was applied at doses that also produced skin irritation. This response was similar to that produced in skin by other types of chronic chemical/physical irritation. No increase in tumors was observed when non-irritating dilutions of kerosene were applied at equivalent doses, indicating that kerosene is unlikely to cause skin cancer in the absence of long-term continued skin irritation. In long-term animal studies with ethylene glycol butyl ether, small but statistically significant increases in tumors were observed in mice but not rats. The effects are not believed to be relevant to humans. If the material is handled in accordance with proper industrial handling, exposures should not pose a carcinogenic risk to man.

TERATOLOGY (BIRTH DEFECTS): For triclopyr BEE, birth defects are unlikely. Exposures having no effect on the mother should have no effect on the fetus. Did not cause birth defects in animals; other effects were seen in the fetus only at doses which caused toxic effects to the mother.

REPRODUCTIVE EFFECTS: Triclopyr BEE, in laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

MUTAGENICITY: For triclopyr BEE, in-vitro and animal mutagenicity studies were negative.

12. ECOLOGICAL INFORMATION:

ENVIRONMENTAL FATE:

MOVEMENT & PARTITIONING:
Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).
Measured log octanol/water partition coefficient (Log Pow) is 4.09.
Log air/water partition coefficient (Log Kaw) is -4.0.

DEGRADATION & PERSISTENCE:
Biodegradation under aerobic static laboratory conditions is moderate (BOD20 or BOD28/ThOD between 10 and 40%).

ECOTOXICOLOGY:
Material is highly toxic to aquatic organisms on an acute basis (LC_{50}/EC_{50} is between 0.1 and 1 mg/L in most sensitive species).

13. DISPOSAL CONSIDERATIONS:

DISPOSAL METHOD: If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws and regulations.

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14. TRANSPORT INFORMATION:

U.S. DEPARTMENT OF TRANSPORTATION INFORMATION

FOR ALL NON-BULK PACKAGES SHIPPED BY AIR, LAND OR WATER:
This material is not regulated for transport.

FOR BULK PACKAGES SHIPPED BY LAND:
COMBUSTIBLE LIQUID, N.O.S. (CONTAINS KEROSENE)/COMBUSTIBLE LIQUID/NA1993/PGIII

15. REGULATORY INFORMATION:

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations.

U.S. REGULATIONS

SARA 313 INFORMATION: To the best of our knowledge, this product contains no chemical subject to SARA Title III Section 313 supplier notification requirements.

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard
A delayed health hazard
A fire hazard

TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

STATE RIGHT-TO-KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

CHEMICAL NAME	CAS NUMBER	LIST
Kerosene	008008-20-6	PA1 NJ3

NJ3=New Jersey Workplace Hazardous Substance (present at greater than or equal to 1.0%).
PA1=Pennsylvania Hazardous Substance (present at greater than or equal to 1.0%).

OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

Health	2
Flammability	2
Reactivity	1

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, or SUPERFUND): To the best of our knowledge, this product contains no chemical subject to reporting under CERCLA.

16. OTHER INFORMATION:

MSDS STATUS: Revised Sections: 8
Reference: DR-0196-5102
Replaces MSDS dated: 11-Oct-06
Document Code: D03-086-005
Replaces Document Code: D03-086-004

The Information Herein Is Given In Good Faith, But No Warranty, Express or Implied, Is Made. Consult Dow AgroSciences for Further Information.