UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

November 24, 2021

Beth Anderson
Sr. Regulatory Manager
Atticus, LLC
5000 CentreGreen Way, Suite 100
Cary, NC 27513

Subject: PRIA Label and CSF Amendment – Replace 100% repack with new formulation; Add Alternate CSF 1 and 2; Revise product label with appropriate precautionary language.
Product Name: A378.01
EPA Registration Number: 91234-195
Application Date: 05/25/2021
Decision Number: 576361

Dear Ms. Anderson:

The amended label and CSF(s) referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, are acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

Please note that the record for this product currently contains the following CSF(s):

- Basic CSF dated 05/25/2021
- Alternate CSF 1 dated 05/25/2021
- Alternate CSF 2 dated 05/25/2021

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the

website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. If you have any questions, please contact Marc Sheahin by phone at 202-566-2896, or via email at Sheahin.marc@epa.gov.

Sincerely,

Product Manager 24
Fungicide and Herbicide Branch,
Registration Division (7505P)

[Note to reviewer: [Text] in brackets denotes optional or explanatory language
[Note to reviewer: {Text} in braces denotes where in the final label text will appear

{BOOKLET FRONT PANEL LANGUAGE}

ETHOFUMESATE	GROUP	8	HERBICIDE

ACCEPTED
11/24/2021
Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 91234-195

A378.01™

[*Alternate Brand Name*: Nektron SC]

[Suspension Concentrate]

[BROAD SPECTRUM HERBICIDE for selective control of weeds in sugar beets, garden beets, onions, garlic, shallots (in all states) and carrots in Washington and Oregon only. [GRASS SEED HERBICIDE for selective control of weeds in certain grass seed crops and commercial sod production in [California, Idaho, Nevada, Oregon and Washington].] [TURF HERBICIDE for selective control of weeds, on Ornamental Turf]

ACTIVE INGREDIENT:	**(% by weight)**
Ethofumesate (2-ethoxy-2, 3-dihydro-3, 3-dimethyl-5-benzofuranyl methanesulfonate)	42.0%
OTHER INGREDIENTS:	58.0%
TOTAL:	100.0%

This product contains 4.0 lbs. active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN

CAUTION

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

See inside label booklet for Precautionary Statements and Directions for Use.

FIRST AID	
If swallowed:	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • **DO NOT** induce vomiting unless told to do so by the poison control center ordoctor. • **DO NOT** give anything by mouth to an unconscious person.
If on skin or clothing:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If 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 inhaled:	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact SafetyCall at **1-844-685-9173** for emergency medical treatment information.	

For Chemical Emergency:
Spill, Leak, Fire, Exposure, or Accident,
Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300 or +1 703-527-3887 (collect calls accepted)

EPA Reg. No.: 91234-XX

EPA Est. No.:

Net Weight:

Manufactured for:
Atticus, LLC
5000 CentreGreen Way, Suite 100
Cary, NC 27513

{LANGUAGE INSIDE BOOKLET}

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION

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

PERSONAL PROTECTIVE EQUIPMENT (PPE)

All mixers, loaders, applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of Barrier Laminate, Butyl Rubber ≥ 14 mils; Nitrile Rubber ≥ 14 mils; Neoprene Rubber ≥ 14 mils; Polyvinyl Chloride (PVC) ≥ 14 mils; and Viton ≥ 14 mils. (except flaggers, or applicator in cockpits, and enclosed cabs)
- Shoes plus socks

See Engineering Controls for additional requirements.

On-Site Closed Mixing and Loading System Engineering Controls for Liquid Formulations for Commercial Dry Bulk Fertilizer Impregnation

Mixers and loaders must use a closed system designed by the manufacturer to provide dermal and inhalation protection to enclose the pesticide to prevent it from contacting handlers or other people AND the system is functioning properly and is used and maintained in accordance with the manufacturer's written operating instructions. The handlers:

- Must wear PPE listed on this label
- Must wear protective eyewear if the system operates under pressure
- Must have immediately available for use in an emergency, including a spill, or equipment breakdown, chemical resistant footwear and chemical resistant apron

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 STATEMENT

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

USER SAFETY REQUIREMENTS

Users should:

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

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. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. **DO NOT** contaminate water when disposing of equipment washwaters or rinsate.

PHYSICAL AND CHEMICAL HAZARDS

DO NOT mix or allow coming in contact with oxidizing agents. Hazardous chemical reaction may occur.

USE RESTRICTIONS

DO NOT OVERTREAT. **A378.01** or tank mixes must be used for label listed purposes and at label specified rates only.

DO NOT graze livestock on treated crops. **DO NOT** feed treated grass clippings to livestock.

DO NOT apply this product through any type of irrigation system.

If crop is lost due to climatic or soil conditions following application of **A378.01** or tank mixes, **DO NOT** plant crops other than sugar beets or ryegrass in treated land during the same season. **DO NOT** retreat field with **A378.01**. If fields are replanted to sugar beets, reseed into treated band.

DO NOT rotate with any crops other than sugar beets or ryegrass for:

- 12 months following preplant incorporated, preemergence, conventional postemergence applications, or split (low rate) applications totaling more than 0.75 pints (0.38 lb. a.i./A) per acre;
- 6 months following split (low rate) postemergence applications totaling 0.75 pints (0.38 lb. a.i./A) per acre or less.

Thorough tillage, including moldboard plowing, must precede the planting of crops other than sugar beets or ryegrass. **DO NOT** use **A378.01** on muck or peat soils.

DO NOT allow spray mixture to stand in tank overnight. Flush and drain spray equipment after each day's use.

Store unused spray mixture in tightly-sealed containers and protect from frost.

This label must be in the possession of the user at the time of pesticide application.

DIRECTIONS FOR USE

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

Read entire Directions for Use and Condition of Sale and Limitation of Warranty and Liability 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 area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

SHAKE CONTAINER WELL BEFORE USING.

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 12 hours for all crops, except turf grown for sod. The REI for turf is 9 days. The REI for each crop is listed in the directions for use associated with each crop.

Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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, including plants, soil, or water is:

- Coveralls
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

Notify workers of the application by warning them orally and by posting warning signs at entrances to treated areas.

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 until sprays have dried.

Professional pesticide applicators applying to residential turf, including residential lawns, parks, and recreation areas must inform their customers that all persons and pets must be kept off the treated turf until sprays have dried.

RESISTANCE MANAGEMENT

For resistance management, **A378.01** is a Group 8 herbicide based on the mode of action classification system of the Weed Science Society of America. Any weed population may contain or develop plants naturally resistant to **A378.01** and other Group 8 herbicides. Weeds resistant to Group 8 herbicides may be effectively managed utilizing another herbicide alone or in mixtures from a different Group and/or by using cultural or mechanical practices. However, a herbicide mode of action classification by itself may not adequately address specific weeds that are resistant to specific herbicides. Consult your local company representative, state cooperative extension service, professional consultants or other qualified authorities to determine appropriate actions for treating specific resistant weeds.

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

- Rotate the use of **A378.01** or other Group 8 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in a 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 after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method for example 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.
- Contact your local extension specialist or certified crop advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report suspected resistance, contact an Atticus, LLC. Representative at (984)-465-4754 or at AtticusLLC.com.

Weed Management Practices

To minimize the occurrence of ethofumesate-resistant biotypes, observe the following weed management practices:

- Scout your fields before and after herbicide application.
- Start with a clean field, using either a burndown herbicide application or tillage.
- Control weeds early when they are relatively small (less than 4 inches).
- Incorporate other herbicides (e.g., a selective and/or a residual herbicide) and cultural practices (e.g., tillage or crop rotation) as part of your weed control system, where appropriate.
- Use the full specified herbicide rate and proper application timing for the hardest to control weed species present in the field. Avoid tank mixtures with other herbicides that reduce the efficacy of this product (through antagonism), or with ones that encourage application rates of this product below those specified on this label.
- Control weed escapes before they reproduce by seed or proliferate vegetatively.
- Clean equipment before moving from field to field to minimize the spread of weed seed or plant parts.
- Use new commercial seed that is as free of weed seed as possible.
- Use good agronomic principles that enhance crop development and crop competitiveness.
- Report any incidence of repeated non-performance of this product on a particular weed to your Atticus, LLC representative at (984)-465-4754, local retailer, or county extension agent.

Management of Ethofumesate-Resistant Biotypes

Appropriate testing is critical in order to determine if a weed is resistant to ethofumesate. Contact your Atticus, LLC representative to determine if resistance in any particular weed biotype has been confirmed in your area, or visit on

the Internet www.weedscience.org.

The following good agronomic practices can reduce the spread of confirmed ethofumesate-resistant biotypes:

- If a naturally occurring resistant biotype is present in your field, this product may be tank-mixed or applied sequentially with an appropriately labeled herbicide with a different mode of action to achieve control.
- Cultural and mechanical control practices (e.g., crop rotation or tillage) can also be used as appropriate.
- Scout treated fields before and after herbicide application and control weed escapes, including resistant biotypes, before they set seed.

- Mandatory Spray Drift

Aerial Applications

- **DO NOT** release spray at a height greater than 10 ft above the vegetative canopy, unless a greater application height is necessary for pilot safety.
- For all applications, applicators are required to use a medium or coarser spray 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 Applications

- Apply with the nozzle height recommended by the manufacturer, but no more than 3 feet above the ground or crop canopy.
- For all applications, applicators are required to use a medium or coarser spray droplet size (ASABE S572.1).
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

Boom-less Ground Applications:

- Applicators are required to use a medium or coarser droplet size (ASABE S572.1) for all applications.
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.
- **DO NOT** apply during temperature inversions."

- Thoroughly clean equipment before leaving fields known to contain resistant biotypes.

- 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
  Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. 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. When applying aerially to crops, **DO NOT** release spray at a height greater than 10 ft above the crop canopy, unless a greater application height is necessary for pilot safety.
- 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.
- Boom-less Ground Applications:
  Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.
- Handheld Technology Applications:
  Take precautions to minimize spray drift.

SUGAR BEETS PRODUCT INFORMATION

A378.01 is a selective herbicide for use in sugar beets for the control of the weed species listed below. It provides effective control of these weeds for up to 10 weeks following application.

Residual control of weeds is dependent upon soil moisture conditions; rate of herbicide used, and soil texture. The activity of **A378.01** in the soil is reduced as the soil texture becomes finer and organic matter increases.

RATE RESTRICTIONS

- For preemergent and preplant applications, **DO NOT** apply more than 7.50 pints of product (3.75 lb a.i./A) per acre in a single application.
- For preemergent and preplant applications, **DO NOT** apply more than 2 applications per year when applied at reduced rates.
- For preemergent and preplant application, **DO NOT** apply more than 7.50 pints of product (3.75 lb a.i./A) per acre per year.
- For postemergent applications, **DO NOT** apply more than 3.00 pints of product (1.50 lb a.i./A) per acre in a single application.
- For postemergent applications, **DO NOT** apply more than 2 applications per year.
- For postemergent applications, **DO NOT** apply more than 7.50 pints of product (3.75 lb a.i./A) per acre per year.
- The combined pre- and postemergence use rates cannot exceed more than 7.50 pints of product (3.75 lb. a.i./A) per acre per year for sugar beets.
- Minimum Retreatment Interval: 10 days
- **A378.01** may be applied up to 45 days before harvest.

- **Aerial Application Rate Restriction: DO NOT** apply more than 3.00 pints of product (1.50 lb a.i./A) per acre per application with aircraft.

PRECAUTIONS

See Use Precautions for additional information on proper use.

TANK-MIXING INSTRUCTIONS

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

WEED SPECIES CONTROLLED

Annual Broadleaf Weeds		**Annual Grass Weeds**	
Black nightshade	*Solanum nigrum*	Annual bluegrass	*Poa annua*
Common chickweed	*Stellaria media*	Barnyardgrass*	*Echinochloa crus-galli*
Common lambsquarters	*Chenopodium album*	Canarygrass	*Phalaris canariensis*
Common purslane	*Portulaca oleracea*	Green foxtail	*Setaria viridis*
Kochia	*Kochia scoparia*	Large crabgrass	*Digitaria sanguinalis*
Ladysthumb	*Polygonum persicaria*	Volunteer barley	*Hordeum sp.*
Pennsylvania smartweed	*Polygonum pennsylvanicum*	Volunteer wheat	*Triticum sp.*
Powell amaranth	Amaranthus powellii		
Redroot pigweed	*Amaranthus retroflexus*	Wild oats**	*Avena fatua*
Russian thistle	*Salsola kali var. tenuifolia*	Yellow foxtail	*Setaria glauca*
Wild buckwheat	*Polygonum convolvulus*		
Waterhemp	*Amaranthus rudis/tuberculatus*		

* Control of barnyardgrass may be reduced with the **A378.01** + chloridazon tank mix because of the lower rate of **A378.01**.
** Control of wild oats has been inconsistent in Minnesota and North Dakota.

A378.01 alone will also reduce competition from these HARD-TO-CONTROL weeds:	
Annual Sowthistle	*Sonchus oleraceus*
Puncturevine	*Tribulus terrestris*
Shepherdspurse	*Capsella bursa-pastoris*
Purple nutsedge	*Cyperus rotundus*
Yellow nutsedge	*Cyperus esculentus*
Roundup Ready Canola (suppression)	*Brassica rapa*

Apply tank mixes only in specific regions or States and in accordance with directions on label.

PREPLANT INCORPORATED AND PREEMERGENCE APPLICATIONS

SOIL PREPARATION: The soil must be prepared according to good agricultural practices. Large clods can reduce the

effectiveness of **A378.01** and tank mixes. All existing vegetative growth must be thoroughly worked into the soil before treatment.

SPRAY EQUIPMENT: Apply **A378.01** alone or in tank mixes to the soil using standard low pressure (20 to 50 psi) spray equipment. Spray equipment must be carefully calibrated before use and checked frequently during application to see that it is functioning properly. **DO NOT** use smaller than 50- mesh strainer. Uniformly apply the label-listed rates of **A378.01** or tank mixes in 10 to 60 gallons of water per acre on a broadcast basis. Avoid overlaps since crop injury may result. When applying **A378.01** or tank mixes in a band; check to make certain that the band width is accurate for the dosage rate being applied.

The spray tank and lines must be thoroughly cleaned and rinsed prior to using **A378.01**.

INCORPORATION EQUIPMENT: Where soil incorporation is advised, use a hooded power- or ground- driven rotary tiller, rolling cultivator, or similar equipment properly adjusted to uniformly incorporate **A378.01** or tank mixes to a depth of 1 to 2 inches. Deeper incorporation may reduce effectiveness. **DO NOT** apply **A378.01** or tank mixes through soil injector shanks. Incorporation must be accomplished prior to planting. If done after planting, proper precautions must be taken to avoid damaging or moving the crop seed. See below for Application Instructions.

LAYERING APPLICATION: Spring: Form beds with appropriate bedding equipment. Pre-irrigate field if necessary. Remove bed top with suitable de-ridging machinery to provide a minimum width of 10" across the top of the bed. Apply **A378.01** in a band at the specified rate indicated in the appropriate regional dosage table and cover the treated band with 1 inch of soil using ditchers or discs equipment. Shape the bed with roller shaper and irrigate until the tops of the beds are thoroughly wetted. Irrigate from furrows on both sides of the row.

Fall: This method of application can be used when spring moisture is marginal or where irrigation water is not available at planting time. Fall bedding utilizes the winter-accumulated moisture to enhance activation of the herbicide and to aid in germination of the sugar beet crop.

Prepare the field (as for planting; plow; pack, and float, etc.), in the fall, usually late September or October. Apply **A378.01** in a band to the soil surface at the specified rate indicated in the appropriate regional dosage table. Be sure that the soil surface to be treated is free of trash and vegetation.

Cover the treated bands with soil and form beds or ridges using ditchers or discs. In the spring when the soil is sufficiently dry to be worked, de-ridge the beds down to within 1/2" to 1" of the treated layer using suitable equipment for example the Kirchner bedder or Oregon Northslope harrow. When de-ridging, maintain the original bedding guidance system by using a bull tongue chisel, slide guides or similar equipment. This will ensure that the planter will follow in the treated band. Plant sugar beets in the de-ridged area when the soil conditions allow.

APPLICATION INSTRUCTIONS

Sugar beets grown under rainfall: Apply **A378.01** alone or in a tank mix preemergence at time of planting or shortly after, but prior to weed germination. **A378.01** or tank mix does not require mechanical soil incorporation provided that sufficient rainfall occurs shortly following application to activate the chemical. One-half inch of rainfall is usually adequate for activation. In areas where rainfall can be marginal for activation, for example the Red River Valley (Minnesota and North Dakota), it is advised that **A378.01** or the tank mix be applied before or at the time of planting and incorporated into the soil.

Sugar beets grown under furrow irrigation: Apply **A378.01** alone or in a tank mix to the soil surface preplant or at time of planting, but prior to weed germination, and incorporate into the soil. Where sugar beets are grown in beds, apply **A378.01** or tank mix after bedding and incorporate. Since **A378.01** or tank mix must have moisture to control weeds effectively, irrigate until tops of beds are thoroughly wetted.

Sugar beets grown under sprinkler irrigation: Apply **A378.01** alone or in a tank mix preemergence at time of planting or shortly after, and irrigate prior to crop and weed germination. Repeat irrigation as necessary to maintain good moisture in upper soil layer. Apply at least one-half inch of water during first irrigation. **DO NOT** mechanically incorporate **A378.01** or tank mix into the soil under sprinkler irrigation.

Cultural Practices Following Application: When properly applied, **A378.01** alone or in a tank mix will provide up to ten weeks control of susceptible weed species. When cultivating fields in which **A378.01** or tank mixes have been banded, care must be exercised to minimize the movement of untreated soil into the treated band. Where a

broadcast application has been made, **DO NOT** cultivate deeper than two inches, as this reduces the effectiveness of **A378.01** or tank mixes.

A378.01 ALONE DOSAGE TABLE
(All Regions Except North Dakota and Minnesota):

Soil Texture	Rate of A378.01 per Acre[1]			
	Broadcast	7-inch Band Width[2]		
		22" Row	28" Row	30" Row
Coarse Textured Soils: Sands, loamy sands and sandy loams	2.25 to 3.75 Pints (1.13 to 1.88 lb a.i./A)	0.75 to 1.25 Pints (0.38 to 0.63 lb a.i./A)	0.67 to 1.00 Pint (0.34 to 0.50 lb a.i./A)	0.50 to 1.00 Pint (0.25 to 0.50 lb a.i./A)
Medium Textured Soils: Silt loams, clay loams which contain less than 3% organic matter	3.75 to 6.00 Pints (1.88 to 3 lb a.i./A)	1.25 to 2.00 Pints (0.63 to 1 lb a.i./A)	1.00 to 1.5 Pints (0.50 to 0.75 lb a.i./A)	1.00 to 1.75 Pints (0.50 to 0.88 lb a.i./A)
Fine Textured Soils: Silt loams, clay loams, clays which contain more than 3% organic matter	6.00 to 7.5 Pints (3 to 3.75 lb a.i./A)	2.00 to 2.5 Pints (1 to 1.25 lb a.i./A)	1.50 to 2.00 Pints (0.75 to 1 lb a.i./A)	1.50 to 1.75 Pints (0.75 to 0.88 lb a.i./A)

[1] Use the higher rate within each soil texture category on the finer texture soils and/or where Kochia, barnyardgrass or black nightshade are expected to be a problem.

[2] For other band or row widths, adjust the rate in proportion to the area actually treated.

DOSAGE TABLE

(North Dakota and Minnesota only):

Soil Texture	A378.01 per Acre	
	Broadcast	7-inch Band Width[1] 22" Row
Coarse Textured Soils: Sandy loams only	6.00 Pints (3.00 lb a.i./A)	2.00 Pints (1.00 lb a.i./A)
Medium Textured Soils: Silt loams and clay loams	6.00 Pints (3.00 lb a.i./A)	2.00 Pints (1.00 lb a.i./A)
Fine Textured Soils: Heavy clays	7.50 Pints (3.75 lb a.i./A)	2.50 Pints (1.25 lb a.i./A)

[1] For other band or row widths, adjust the rate in proportion to the area actually treated.

Preplant and Preemergence Use Restrictions

A378.01 applied alone or in tank mixes according to label directions and under normal growing conditions may cause temporary leaf fusion, distortion and stunting. Crop injury may occur during early growth when crop is stressed due to herbicide residue carryover, highly saline or alkaline soils, unusually cold and wet weather or improperly placed

fertilizers or soil insecticides.

Unusually dry, windy weather, which dries the upper soil layer, following application of **A378.01**, may reduce effectiveness.

DO NOT OVERTREAT.

Crop Planting Restrictions: If crop is lost due to unfavorable growth conditions following treatment, **DO NOT** replant with crops other than sugar beets or ryegrass in treated land during the same season. If fields are replanted to sugar beets, reseed into treated band. **DO NOT** retreat field with conventional rates of **A378.01** in the same season.

POSTEMERGENCE APPLICATION

Product Information

A378.01 alone is not advised for postemergent use.

A378.01 + GLYPHOSATE (TANK MIX)

Postemergence application of **A378.01** plus glyphosate can improve control of weeds on this label including glyphosate-resistant biotypes.

POSTEMERGENCE APPLICATIONS

Apply **A378.01** + glyphosate to Roundup Ready sugarbeets only.

Apply **A378.01** + glyphosate to sugar beets having greater than 2 true leaves. Apply **A378.01** + glyphosate to

small weeds.

Apply **A378.01**+ glyphosate in a single or multiple application(s) using ground or air application.

The greater the number of **A378.01** + glyphosate applications, the greater the weed control.

Include the following spray adjuvants to tank mixes of **A378.01** + glyphosate: ammonium sulfate plus methylated seed oil (MSO) at 1.25 to 2.00 pints/A or high surfactant methylated seed oil (HSMOC) at 1.00 to 2.00 pints/A or nonionic surfactant (NIS) at 0.25% v/v. **DO NOT** include a crop oil concentrate adjuvant with this mixture.

DOSAGE TABLE

A378.01 + GLYPHOSATE DOSAGE FOR POSTEMERGENCE APPLICATIONS

Sugar Beet Stage	A378.01 PINTS/ACRE BROADCAST PER APPLICATION
> 2 true leaves to 45-days prior to harvest	0.510 – 8.00 (0.25 – 4.00 lb a.i./A)

A378.01 + Glyphosate Postemergence Use Precautions

A378.01 + glyphosate applied at greater than 5.00 pints (2.50 lb a.i./A) per acre per application to fields having coarse-textured low organic matter soils will likely cause crop response.

Sugar beet injury is possible when applying **A378.01** + glyphosate at greater than 5.00 pints (2.50 lb a.i./A) per acre per application to small sugar beets.

Removing MSO, HSMOC, and NIS from tank mixes with metolachlor, dimethenamid, acetochlor, triflusulfuron-methyl and clopyralid must decrease crop response, but weed control may be reduced.

Tank mixes of metolachlor, dimethenamid, acetochlor, triflusulfuron-methyl and/or clopyralid plus adjuvants with **A378.01** + glyphosate will cause crop response and likely yield loss, especially with increasing rates of **A378.01**.

Sugar beet injury can occur when **A378.01** is applied preemergence and metolachlor, dimethenamid or acetochlor are mixed with **A378.01** + glyphosate postemergence.

Sugar beet injury will be enhanced if **A378.01** + glyphosate is applied following a preplant application of eptam.

Sugar beet injury can be enhanced if the crop is under stress.

A378.01 may be applied up to 45 days before harvest. For all products mixed with **A378.01**, follow the most restrictive pre-harvest interval listed on the product label.

DOSAGE TABLE

A378.01 + GLYPHOSATE - MAXIMUM DOSAGE AND NUMBER OF GROUND APPLICATIONS FOR POSTEMERGENCE APPLICATIONS

	Annual Rate		
Max. Single Rate of A378.01, lb. AI/A	**Max. # Applications of A378.01 per Year** (When using reduced application rates)	**Max. A378.01 Rate, lb. AI/A**	**Max. No. crop cycles per year**
4.00	4	4.00	1

A378.01 MIXTURES WITH FERTILIZERS

A378.01 Impregnation on Dry Bulk Fertilizers

A378.01 may be impregnated on many dry bulk fertilizers (See "1" below) and applied and incorporated into the soil before planting for the control of labeled grasses and broadleaf weeds in sugar beets. See instructions for impregnation on dry bulk fertilizers at end of label.

A378.01 with Liquid Fertilizer

Directions for mixing **A378.01** with liquid fertilizers for spray tank applications, and testing physical compatibility of liquid fertilizer – **A378.01** mixture can be found at the end of the label.

BEETS, TABLE (GARDEN) PRODUCT INFORMATION

A378.01 is a selective herbicide for use in table beets for the control of the weed species listed below.

Residual control of weeds is dependent upon soil moisture conditions; rate of herbicide used, and soil texture. The activity of **A378.01** in the soil is reduced as the soil texture becomes finer and organic matter increases.

WEED SPECIES CONTROLLED

Annual Broadleaf Weeds	
Black nightshade	*Solanum nigrum*
Common chickweed	*Stellaria media*
Common lambsquarters	*Chenopodium album*
Common purslane	*Portulaca oleracea*
Eastern black nightshade	*Solanum ptycanthum*
Kochia	*Kochia scoparia*
Ladysthumb	*Polygonum persicaria*

Pennsylvania smartweed	*Polygonum pennsylvanicum*
Redroot pigweed	*Amaranthus retroflexus*
Russian thistle	*Salsola kali var. tenuifolia*
Wild buckwheat	*Polygonum convolvulus*

Annual Grass Weeds	
Annual bluegrass	*Poa annua*
Barnyardgrass	*Echinochloa crus-galli*
Canarygrass	*Phalaris canariensis*
Green foxtail	*Setaria viridis*
Large crabgrass	*Digitaria sanguinalis*
Volunteer barley	*Hordeum* sp.
Volunteer wheat	*Triticum* sp.
Wild oats**	*Avena fatua*
Yellow foxtail	*Setaria glauca*

** Control of wild oats has been inconsistent in Minnesota and North Dakota

A378.01 alone will also reduce competition from these HARD-TO-CONTROL weeds:	
Annual Sowthistle	*Sonchus loeraceus*
Puncturevine	*Tribulus terrestris*
Shepherdspurse	*Capsella bursa-pastoris*
Purple nutsedge	*Cyperus rotundus*
Yellow nutsedge	*Cyperus esculentus*

Apply tank mixes only in specified regions or States and in accordance with directions on label.

APPLICATION INSTRUCTIONS

Table Beets Grown Under Rainfall: Apply **A378.01** alone or in a tank mix preemergence at time of planting or shortly after, but prior to weed germination. **A378.01** or tank mix does not require mechanical soil incorporation provided that sufficient rainfall occurs shortly following application to activate the chemical. One-half inch of rainfall is usually adequate for activation. In areas where rainfall can be marginal for activation, it is advised that **A378.01** be applied before or at the time of planting and incorporated into the soil.

Table Beets Grown Under Furrow Irrigation: Apply **A378.01** alone or in a tank mix to the soil surface preplant or at time of planting, but prior to weed germination. Where table beets are grown in beds, apply **A378.01** or tank mix after bedding and incorporate. Since **A378.01** must have moisture to control weeds effectively, irrigate until tops of beds are thoroughly wetted.

Table Beets Grown Under Sprinkler Irrigation: Apply **A378.01** alone or in tank mix preemergence at time of planting or shortly after, and irrigate prior to crop and weed germination. Repeat irrigation as necessary to maintain good moisture in upper soil layer. Apply at least one-half inch of water during first irrigation. **DO NOT** mechanically incorporate **A378.01** into the soil under sprinkler irrigation.

Cultural Practices Following Application: When properly applied, **A378.01** alone can provide up to 6 weeks control of susceptible species. When cultivating fields in which **A378.01** has been banded, care must be exercised to minimize

the movement of untreated soil into the treated band. Where a broadcast application has been made, **DO NOT** cultivate deeper than two inches, as this reduces the effectiveness of **A378.01**.

A378.01 ALONE DOSAGE FOR BROADCAST APPLICATIONS

Table Beet Stage	A378.01 PINTS/ACRE BROADCAST PER APPLICATION
Preemergence	3.00 (1.50 lbs a.i./A)
Postemergence:	
2-Leaf	0.33 (0.17 lbs a.i./A)
4-Leaf	0.33 (0.17 lbs a.i./A)
6-Leaf to 8-Leaf	0.66 (0.33 lbs a.i./A)

PREPLANT AND PREEMERGENCE USE RESTRICTIONS

A378.01 applied alone or in tank mixes according to label directions and under normal growing conditions may cause temporary leaf fusion, distortion and stunting. Crop injury may occur during early growth when crop is stressed due to herbicide residue carryover, highly saline or alkaline soils, unusually cold and wet weather or improperly placed fertilizers or soil insecticides.

Unusually dry, windy weather, which dries the upper soil layer, following application of **A378.01**, may reduce effectiveness.

DO NOT OVERTREAT.

Crop Planting Restrictions: If crop is lost due to unfavorable growth conditions following treatment, **DO NOT** replant with crops other than sugar beets, table beets, garlic, onions, shallots or ryegrass in treated land during the same season. If fields are replanted to sugar beets, reseed into treated band. **DO NOT** retreat field with preemergence rates of **A378.01** in the same season.

RATE RESTRICTIONS

- For preemergent applications, **DO NOT** apply more than 3.00 pints of product (1.50 lb. a.i./A) per acre in a single application.
- **DO NOT** apply more than one preemergent application per year.
- For combined pre- and postemergent applications, **DO NOT** exceed a total of 5.20 pints of product (2.60 lb a.i./A) per acre per year.
- If one preemergent application is made at 3.00 pints of product (1.50 lb a.i./A), **DO NOT** make more than two postemergent applications at 0.66 pints (0.33 lb a.i./A) per acre per year.
- **DO NOT** make more than three postemergent applications at the lower rate of 0.33 pints of product (0.17 lb a.i./A) per acre per year. See Use Precautions for additional information on proper use.
- **DO NOT** apply more than 4 total applications per year.
- Minimum Retreatment Interval: 10 days.

Minimum Retreatment Interval: PREPLANT AND PREEMERGENCE APPLICATIONS

Soil Preparation: The soil must be prepared according to good agricultural practices. Large clods can reduce the effectiveness of **A378.01** and tank mixes. All existing vegetative growth must be thoroughly worked into the soil before treatment.

Spray Equipment: Apply **A378.01** alone or in tank mixes to the soil using standard low pressure (20 to 50 psi) spray equipment. Spray equipment must be carefully calibrated before use and checked frequently during application to see that it is functioning properly. **DO NOT** use smaller than 50- mesh strainer. Uniformly apply the specified rates of **A378.01** or tank mixes in 10 to 60 gallons of water per acre on a broadcast basis. Avoid overlaps since crop injury may result. When applying **A378.01** or tank mixes in a band, check to make certain that the band width is accurate for the dosage rate being applied.

The spray tank and lines must be thoroughly cleaned and rinsed prior to using **A378.01**.

POSTEMERGENCE APPLICATION

Product Information

A378.01 applied postemergence broadens and enhances the control of weeds.

Mixing the Spray: Add **A378.01** to the water in the spray while agitating the spray solution thoroughly.

Spray Equipment: Apply the mixture using standard low pressure (20-60 psi) spray equipment. Ensure that the sprayer is thoroughly clean. Spray equipment must be carefully calibrated before use and checked frequently during application to see that it is functioning properly. Uniformly apply the specified rate in 10-40 gallons of water per acre on a broadcast basis or 5-10 gallons of water per acre in a band. Avoid overlaps, since crop injury may result. When applying in a band, check to make certain that the band width is accurate for the dosage rate being applied. **DO NOT** use strainer smaller than 50-mesh.

Moisture Following Application/Residual Weed Control: Rainfall or sprinkler irrigation within 6 hours of spraying may reduce weed control; however, with preemergence rates, moisture after this period of time is advantageous for moving **A378.01** into the top layer of soil where it can be absorbed by the roots of sprayed and germinating weeds to provide optimum control. One-half inch or more of sprinkler irrigation is required to activate **A378.01** on most soil types.

Residual control of weeds is dependent upon soil moisture conditions; rate of herbicide used, and soil texture. The activity of **A378.01** in the soil is reduced as the soil texture becomes finer and organic matter increases.

A378.01 MAY CAUSE CROP INJURY OR STAND LOSS IF THE CROP IS UNDER STRESS FROM ONE OR MORE OF THE FOLLOWING CONDITIONS:

- Rapid climatic changes from cool, overcast days, to hot (80°F or over), bright days. When the air temperature is, or is likely to be, above 80°F on the day of spraying, application must be made in the evening when the temperature is lower.
- Frost within seven days following treatment
- Windy or drought conditions
- Use of a preplant or preemergence herbicide or other chemicals
- Insect or disease injury
- Close cultivation

Postemergent Restrictions

- **DO NOT** OVERTREAT.
- **DO NOT** spray while dew is present.
- **DO NOT** allow spray drift to contact adjacent crops which may be injured by spray drift.

Precautions

- Rainfall or sprinkler irrigation within 6 hours of application may reduce weed kill.
- If stress conditions are present, delay application until crop has recovered.
- If **A378.01** is applied on fields with heavy crop residue, including from a previous corn crop, reduced weed control may occur.

ONION, DRY BULB; GARLIC, BULB; SHALLOT, BULB PRODUCT INFORMATION

A378.01 is a selective herbicide for use in onion, garlic and shallot for the control of the weed species listed below.

Residual control of weeds is dependent upon soil moisture conditions; rate of herbicide used, and soil texture. The activity of **A378.01** in the soil is reduced as the soil texture becomes finer and organic matter increases.

WEED SPECIES CONTROLLED

Annual Broadleaf Weeds	
Black nightshade	*Solanum nigrum*
Common chickweed	*Stellaria media*
Common lambsquarters	*Chenopodium album*
Common purslane	*Portulaca oleracea*
Eastern black nightshade	*Solanum ptycanthum*
Kochia	*Kochia scoparia*
Ladysthumb	*Polygonum persicaria*
Pennsylvania smartweed	*Polygonum pennsylvanicum*
Redroot pigweed	*Amaranthus retroflexus*
Russian thistle	*Salsola kali var. tenuifolia*
Wild buckwheat	*Polygonum convolvulus*

Annual Grass Weeds	
Annual bluegrass	*Poa annua*
Barnyardgrass	*Echinochloa crus-galli*
Canarygrass	*Phalaris canariensis*
Green foxtail	*Setaria viridis*
Large crabgrass	*Digitaria sanguinalis*
Volunteer barley	*Hordeum* sp.
Volunteer wheat	*Triticum* sp.
Wild oats**	*Avena fatua*
Yellow foxtail	*Setaria glauca*

**Control of wild oats has been inconsistent in Minnesota and North Dakota

A378.01 alone will also reduce competition from these HARD-TO-CONTROL weeds:

Annual sowthistle	*Sonchus oleraceus*
Puncturevine	*Tribulus terrestris*
Shepherdspurse	*Capsella bursa-pastoris*

Purple netsedge	*Cyperus rotundus*
Volunteer potato	*Solanum tuberosum*
Yellow nutsedge	*Cyperus esculentus*

Apply tank mixes only in specified regions or States and in accordance with directions on label.

APPLICATION INSTRUCTIONS

Onion, garlic and shallot grown under rainfall: Apply **A378.01** alone or in a tank mix preemergence at time of planting or shortly after, but prior to weed germination. **A378.01** or tank mix does not require mechanical soil incorporation provided that sufficient rainfall occurs shortly following application to activate the chemical. One-half inch of rainfall is usually adequate for activation. In areas where rainfall can be marginal for activation, it is advised that **A378.01** be applied before or at time of planting and incorporated into the soil.

Onion, garlic and shallot grown under furrow irrigation: Apply **A378.01** alone or in a tank mix to the soil surface preplant or at time of planting, but prior to weed germination. Where these crops are grown in beds, apply **A378.01** or tank mix after bedding and incorporate. Since **A378.01** must have moisture to control weeds effectively, irrigate until tops of beds are thoroughly wetted.

Onion, garlic and shallot grown under sprinkler irrigation: Apply **A378.01** alone or in tank mix preemergence at time of planting or shortly after, and irrigate prior to crop and weed germination. Repeat irrigation as necessary to maintain good moisture in upper soil layer. Apply at least one-half inch of water during first irrigation. **DO NOT** mechanically incorporate **A378.01** into the soil under sprinkler irrigation.

CULTURAL PRACTICES FOLLOWING APPLICATION: When properly applied, **A378.01** alone can provide up to 6 weeks of control of susceptible weed species. When cultivating fields in which **A378.01** has been banded, care must be exercised to minimize the movement of untreated soil into the treated band. Where a broadcast application has been made, **DO NOT** cultivate deeper than two inches, as this reduces the effectiveness of **A378.01**.

A378.01 ALONE
DOSAGE FOR BROADCAST APPLICATIONS TO ONION, GARLIC AND SHALLOT

Use Pattern	A378.01 PINTS/ACRE BROADCAST PER APPLICATION
Preemergence, soil surface Coarse Soils (sand, loamy sand, sandy loam)* Medium and Fine Soils**	 1.00 (0.50 lbs a.i./A) 2.00 (1.00 lbs a.i./A)
Postemergence Up to 4 foliar applications at evenly spaced intervals, with last application 30 (+/- 2) days before harvest	1.00 (0.50 lbs a.i./A)

* On coarse soils: **DO NOT** exceed 3.00 pints (0.38 gallon) (1.50 lb a.i./A) of product per acre per year.
** On medium and fine textured soils: **DO NOT** exceed 6.00 pints (0.75 gallon) (3.00 lb a.i./A) of product per acre per year.

PREPLANT AND PREEMERGENCE USE RESTRICTIONS

A378.01 applied alone or in tank mixes according to label directions and under normal growing conditions may cause temporary leaf fusion, distortion and stunting. Crop injury may occur during early growth when crop is stressed due to herbicide residue carryover, high saline or alkaline soils, unusually cold and wet weather or improperly placed fertilizers or soil insecticides.

Unusually dry, windy weather, which dries the upper soil layer, following application of **A378.01**, may reduce effectiveness.

DO NOT OVERTREAT.

Crop Planting Restrictions: If crop is lost due to unfavorable growth conditions following treatment, **DO NOT** replant

with crops other than sugar beets, table beets, garlic, onions, shallots or ryegrass in treated land during the same season. If fields are replanted to sugar beets, reseed into treated band. **DO NOT** retreat field with preemergence rates of **A378.01** in the same season.

RATE RESTRICTIONS

- For preemergent applications, **DO NOT** apply more than 2.00 pints (1.00 lb a.i./A) per acre per application.
- For postemergent applications, **DO NOT** apply more than 1.00 pint (0.50 lb a.i./A) per acre per application.
- **DO NOT** apply more than 2 preemergent applications at lowest rate per year.
- **DO NOT** apply more than 4 postemergent applications at the maximum single rate per year.
- **DO NOT** exceed 3.00 pints (0.38 gallon) (1.50 lb a.i./A) of product per acre per year on coarse soils.
- **DO NOT** exceed 6.00 pints (0.75 gallon) (3.00 lb a.i./A) of product per acre per year on medium and fine textured soils.
- **DO NOT** apply more than a total of 6.00 pints (3.00 lb a.i./A; 0.75 gallon) of **A378.01** per acre per year (combined preemergent and postemergent applications).
- Minimum Retreatment Interval: 15 days.

PRECAUTIONS

See Use Precautions for additional information on proper use.

PREPLANT AND PREEMERGENCE APPLICATIONS

Soil Preparation: The soil must be prepared according to good agricultural practices. Large clods can reduce the effectiveness of **A378.01** and tank mixes. All existing vegetative growth must be thoroughly worked into the soil before treatment.

Spray Equipment: Apply **A378.01** alone or in tank mixes to the soil using standard low pressure (20 to 50 psi) spray equipment. Spray equipment must be carefully calibrated before use and checked frequently during application to see that it is functioning properly. **DO NOT** use smaller than 50- mesh strainer. Uniformly apply the specified rates of **A378.01** or tank mixes in 10 to 60 gallons of water per acre on a broadcast basis. Avoid overlaps since crop injury may result. When applying **A378.01** or tank mixes in a band, check to make certain that the band width is accurate for the dosage rate being applied.

The spray tank and lines must be thoroughly cleaned and rinsed prior to using **A378.01**.

POSTEMERGENCE APPLICATION

Product Information

A378.01 applied postemergence broadens and enhances the control of weeds.

Mixing the spray: Add **A378.01** to the water in the spray tank while agitating the spray solution thoroughly.

Spray Equipment: Apply the mixture using standard low pressure (20-60 psi) spray equipment. Ensure that the sprayer is thoroughly clean. Spray equipment must be carefully calibrated before use and checked frequently during application to see that it is functioning properly. Uniformly apply the specified rate in 10-40 gallons of water per acre on a broadcast basis or 5-10 gallons of water per acre in a band. Avoid overlaps, since crop injury may result. When applying in a band, check to make certain that the band width is accurate for the dosage rate being applied. **DO NOT** use strainer smaller than 50-mesh.

Moisture following Application/Residual Weed Control: Rainfall or sprinkler irrigation within 6 hours of spraying may reduce weed control; however, with preemergence rates, moisture after this period of time is advantageous for moving **A378.01** into the top layer of soil where it can be absorbed by the roots of sprayed and germinating weeds to provide optimum control. One-half inch or more of sprinkler irrigation is required to activate **A378.01** on most soil types. Residual control of weeds is dependent upon soil moisture conditions, rate of herbicide used, and texture. The activity of **A378.01** in the soil is reduced as the soil texture becomes finer and organic matter increases.

A378.01 MAY CAUSE CROP INJURY OR STAND LOSS IF THE CROP IS UNDER STRESS FROM ONE OR MORE OF THE FOLLOWING CONDITIONS:

- Rapid climatic changes from cool, overcast days, to hot (80°F or over), bright days. When the air temperature is, or is likely to be, above 80°F on the day of spraying, application must be made in the evening when the temperature is lower.
- Frost within seven days following treatment
- Windy or drought conditions
- Use of preplant or preemergence herbicide or other chemicals
- Insect or disease injury
- Close cultivation

If stress conditions are present, delay application until crop has recovered.

RESTRICTIONS

DO NOT OVERTREAT.

DO NOT spray while dew is present.

DO NOT allow spray drift to contact adjacent crops which may be injured by spray drift.

Precautions

Rainfall or sprinkler irrigation within 6 hours of application may reduce weed kill.

If **A378.01** is applied on fields with heavy crop residue, including from a previous corn crop, reduced weed control may occur.

CARROT PRODUCT INFORMATION
(For Use in Washington and Oregon Only)

A378.01 is a selective herbicide for use in carrot for the control of volunteer potatoes and the weed species listed below.

Residual control of weeds is dependent upon soil moisture conditions; rate of herbicide used, and soil texture. The activity of **A378.01** in the soil is reduced as the soil texture becomes finer and organic matter increases.

WEED SPECIES CONTROLLED

Annual Broadleaf Weeds	
Black nightshade	*Solanum nigrum*
Common chickweed	*Stellaria media*
Common lambsquarters	*Chenopodium album*
Common purslane	*Portulaca oleracea*
Kochia	*Kochia scoparia*
Ladysthumb	*Polygonum persicaria*
Pennsylvania smartweed	*Polygonum pennsylvanicum*
Redroot pigweed	*Amaranthus retroflexus*
Russian thistle	*Salsola kali var. tenuifolia*
Wild buckwheat	*Polygonum convolvulus*
Annual Grass Weeds	
Annual bluegrass	*Poa annua*
Barnyardgrass	*Echinochloa crus-galli*

Canarygrass	*Phalaris canariensis*
Green foxtail	*Setaria viridis*
Large crabgrass	*Digitaria sanguinalis*
Volunteer barley	*Hordeum* sp.
Volunteer wheat	*Triticum* sp.
Wild oats	*Avena fatua*
Yellow foxtail	*Setaria glauca*
A378.01 alone will also reduce competition from these HARD-TO-CONTROL weeds:	
Annual Sowthistle	*Sonchus oleraceus*
Puncturevine	*Tribulus terrestris*
Shepherdspurse	*Capsella bursa-pastoris*
Purple nutsedge	*Cyerus rotundus*
Volunteer potato	*Solanum tuberosum*
Yellow nutsedge	*Cyperus esculentus*

Apply tank mixes only in specified regions or States and in accordance with directions on label.

APPLICATION INSTRUCTIONS

Carrot grown under rainfall: Apply **A378.01** alone or in a tank mix preemergence at time of planting or shortly after, but prior to weed germination. **A378.01** or tank mix does not require mechanical soil incorporation provided that sufficient rainfall occurs shortly following application to activate the chemical. One-half inch of rainfall is usually adequate for activation. In areas where rainfall can be marginal for activation, it is advised that **A378.01** be applied before or at the time of planting and incorporated into the soil.

Carrot grown under furrow irrigation: Apply **A378.01** alone or in a tank mix to the soil surface preplant or at time of planting, but prior to weed germination. Where carrots are grown in beds, apply **A378.01** or tank mix after bedding and incorporate. Since **A378.01** must have moisture to control weeds effectively, irrigate until tops of beds are thoroughly wetted.

Carrot grown under sprinkler irrigation: Apply **A378.01** alone or in tank mix preemergence at time of planting or shortly after, and irrigate prior to crop and weed germination. Repeat irrigation as necessary to maintain good moisture in upper soil layer. Apply at least one-half inch of water during first irrigation. **DO NOT** mechanically incorporate **A378.01** into the soil under sprinkler irrigation.

Cultural practices following application: When properly applied, **A378.01** alone can provide up to 6 weeks control of susceptible weed species. When cultivating fields in which **A378.01** has been banded, care must be exercised to minimize the movement of untreated soil into the treated band. Where a broadcast application has been made, **DO NOT** cultivate deeper than two inches, as this reduces the effectiveness of **A378.01**.

A378.01

DOSAGE FOR BROADCAST APPLICATIONS TO CARROT

Use Pattern	A378.01 PINTS/ACRE BROADCAST PER APPLICATION
Preemergence, soil surface Coarse Soils (sand, loamy sand, sandy loam) Medium and Fine soils	 3.00 (1.50 lbs a.i./A) 4.00 (2.00 lbs a.i./A)

Postemergence 2-Leaf to 4 Leaf Stage	4.00 (2.00 lbs a.i./A)

PREPLANT AND PREEMERGENCE USE RESTRICTIONS

A378.01 applied alone or in tank mixes according to label directions and under normal growing conditions may cause temporary leaf fusion, distortion and stunting. Crop injury may occur during early growth when crop is stressed due to herbicide residue carryover, highly saline or alkaline soils, unusually cold and wet weather or improperly placed fertilizers or soil insecticides.

Unusually dry, windy weather, which dries the upper soil layer, following application of **A378.01**, may reduce effectiveness.

DO NOT OVERTREAT.

Crop Planting Restrictions: If crop is lost due to unfavorable growth conditions following treatment, **DO NOT** replant with crops other than sugar beets, table beets, carrots, garlic, onions, shallots, or ryegrass in treated land during the same season. If fields are replanted to sugar beets, reseed into treated band. **DO NOT** retreat field with preemergence rates of **A378.01** in the same season.

See Use Precautions for additional information on proper use.

RATE RESTRICTIONS

- **DO NOT** apply more than 4.00 pints of product (2.00 lb a.i./A) per acre per application.
- **DO NOT** apply more than one preemergent and one postemergent application at the maximum rate per year.
- **DO NOT** apply more than 8.00 pints of product (4.00 lb a.i./A) per acre per year.
- Minimum Retreatment Interval: 14 days.

PREPLANT AND PREEMERGENCE APPLICATIONS

Soil Preparation: The soil must be prepared according to good agricultural practices. Large clods can reduce the effectiveness of **A378.01** and tank mixes. All existing vegetative growth must be thoroughly worked into the soil before treatment.

Spray Equipment: Apply **A378.01** alone or in tank mixes to the soil using standard low pressure (20 to 50 psi) spray equipment. Spray equipment must be carefully calibrated before use and checked frequently during application to see that it is functioning properly. **DO NOT** use smaller than 50 mesh strainer. Uniformly apply the specified rates of **A378.01** or tank mixes in 10 to 60 gallons of water per acre on a broadcast basis. Avoid overlaps since crop injury may result. When applying **A378.01** or tank mixes in a band, check to make certain that the band width is accurate for the dosage rate being applied.

The spray tank and lines must be thoroughly cleaned and rinsed prior to using **A378.01**.

POSTEMERGENCE APPLICATION

Product Information

A378.01 applied postemergence broadens and enhances the control of weeds.

Mixing the Spray: Add **A378.01** to the water in the spray while agitating the spray solution thoroughly.

Spray Equipment: Apply the mixture using standard low pressure (20-60 psi) spray equipment. Ensure that the sprayer is thoroughly clean. Spray equipment must be carefully calibrated before use and checked frequently during application to see that it is functioning properly. Uniformly apply the specified rate in 10-40 gallons of water per acre on a broadcast basis or 5-10 gallons of water per acre in a band. Avoid overlaps, since crop injury may result. When applying in a band, check to make certain that the band width is accurate for the dosage rate being applied. **DO NOT** use strainer smaller than 50-mesh.

Moisture Following Application/Residual Weed Control: Rainfall or sprinkler irrigation within 6 hours of spraying may reduce weed control, however, with preemergence rates, moisture after this period of time is advantageous for moving **A378.01** into the top layer of soil where it can be absorbed by the roots of sprayed and germinating weeds to provide optimum control. One-half inch or more of sprinkler irrigation is required to activate **A378.01** on most soiltypes.

Residual control of weeds is dependent upon soil moisture conditions; rate of herbicide used, and soil texture. The activity of **A378.01** in the soil is reduced as the soil texture becomes finer and organic matter increases.

A378.01 MAY CAUSE CROP INJURY OR STAND LOSS IF THE CROP IS UNDER STRESS FROM ONE OR MORE OF THE FOLLOWING CONDITIONS:

- Rapid climatic changes from cool, overcast days, to hot (80°F or over), bright days. When the air temperature is, or is likely to be, above 80°F on the day of spraying, application must be made in the evening when the temperature is lower.
- Frost within seven days following treatment
- Windy or drought conditions
- Use of preplant or preemergence herbicide or other chemicals
- Insect or disease injury
- Close cultivation

If stress conditions are present, delay application until crop has recovered.

Rainfall or sprinkler irrigation within 6 hours of application may reduce weed kill.

If **A378.01** is applied on fields with heavy crop residue, including from a previous corn crop, reduced weed control may occur.

RESTRICTIONS

- **DO NOT** allow spray drift to contact adjacent crops which may be injured by spray drift.
- **DO NOT** spray while dew is present.

GRASS SEED AND COMMERCIAL SOD

[(For use in California, Idaho, Nevada, Oregon, and Washington only)] AND TURF [(Not for Use in California)] PRODUCT INFORMATION

Use Restrictions for Grasses and Commercial and Ornamental Sod

Use **A378.01** only as directed at the specified rates (**DO NOT** OVERAPPLY).

- **DO NOT** apply more than 3.00 pints of product (1.50 lb a.i./A) per acre per application.
- **DO NOT** apply more than 2 applications per year when applied at reduced rates.
- **DO NOT** apply more than 3.00 pints of product (1.50 lb a.i./A) per acre per year.
- Avoid spray overlap or turf injury may occur.
- Use of a spray colorant or indicator in the spray tank is instructed so that spray pattern overlapping can be avoided.
- **DO NOT** apply with flood jet nozzles and hand-held sprayers, since treatments may not be uniform.
- **DO NOT** apply this product through any type of irrigation system.
- **A378.01** application is most effective on healthy, vigorously growing turf.
- **A378.01** may be applied to residential lawns by licensed or certified applicators. **A378.01** is not intended for residential use.
- Overseeding is directed in conjunction with **A378.01** applications to achieve conversion to desired turfgrass

species and to avoid stand thinning due to annual bluegrass loss.

- When overseeding, use the rate of **A378.01** specified for the overseeded species. In mixed stands of established turfgrasses, use the rate specified for the least resistant species.
- **DO NOT** apply **A378.01** within 8 weeks following the application of a Plant Growth Regulator. **A378.01** program may be initiated on creeping bentgrass 3 weeks after a single application of trinexapac-ethyl has been applied.
- **A378.01** application is specified for golf course fairways, roughs, and tees but at fairway-height only. **DO NOT** apply to putting greens.
- **DO NOT** apply **A378.01** to zoysiagrass and hard or fine fescue; serious injury may result.
- For sod farm turf: **DO NOT** harvest treated sod for 3 days following application.
- **DO NOT** graze livestock on treated turf.
- **DO NOT** feed treated grass clippings to livestock.

RYEGRASS, TALL FESCUE, BENTGRASS, AND KENTUCKY BLUEGRASS SEED CROPS PRODUCT INFORMATION

[(For use in California, Idaho, Nevada, Oregon, and Washington only)]

A378.01 is a selective herbicide for use in ryegrass, tall fescue, and bentgrass seed crops in California, Idaho, Nevada, Oregon, and Washington. It effectively controls or reduces competition from those weed species listed below. **A378.01** may be applied preemergence to new seedings of annual or perennial ryegrass or postemergence to perennial ryegrass, tall fescue, or bentgrass. Application to bentgrass is restricted to plantings which have been established for one year or longer. Soil must be moist at time of application. **A378.01** is less effective when applied to dry soil. Rainfall or overhead irrigation shortly after application is necessary for activation.

Residual control of weeds is dependent upon soil moisture conditions; rates of herbicide used, and soil texture. The activity of **A378.01** in the soil is reduced as the soil texture becomes finer and organic matter/thatch increases.

RATE RESTRICTIONS

- **DO NOT** apply more than 3.00 pints of product (1.50 lb a.i./A) per acre per application.
- **DO NOT** apply more than 2 applications per year when applied at reduced rates.
- **DO NOT** apply more than 3.00 pints of product (1.50 lb a.i./A) per acre per year.
- Minimum Retreatment Interval: 21 days.

WEEDS CONTROLLED

Annual bluegrass	*Poa annua*
Seedling Rattail fescue	*Festuca myuros*
Seedling volunteer wheat	*Triticum* spp.
Seedling volunteer barley	*Hordeum* spp.
Soft chess	*Bromus mollis*
Seedling Wild oats	*Avena fatua*
Downy brome	*Bromus tectorum*
Common chickweed	*Stellaria media*
Common vetch	*Vicia sativa*
Common velvetgrass	*Holcus lanatus*

Mannagrass	*Glyceria* spp.
Barnyardgrass	*Echinochloa crus-galli*
Canarygrass	*Phalaris canariensis*
Green foxtail	*Setaria viridis*
Large crabgrass	*Digitaria sanguinalis*
Yellow foxtail	*Setaria glauca*

Spray equipment: Use a fixed-boom power sprayer properly calibrated to a constant speed and rate of delivery. **DO NOT** use smaller than 50-mesh strainer. Avoid overlapping of spray swath. Shut off boom while starting, turning or stopping to avoid overlapping. Apply in 10 to 50 gallons of water per acre at low pressure (20 to 50 psi).

Soil preparation: A firm, fine and level seedbed free of trash and vegetative matter will provide best results from preemergence applications. Large clods can reduce effectiveness of **A378.01**. It is advised that all vegetative growth be thoroughly worked into the soil before treatment.

NEW SEEDINGS OF ANNUAL OR PERENNIAL RYEGRASS

Before weed emergence: Apply **A378.01** after seeding and prior to weed emergence. For best results apply to moist soil. Apply 1.50 to 3.00 pints (0.75 to 1.50 lb a.i./A) per acre per application. Use the lower rate for control of common chickweed. For control of rattail fescue, wild oats, and volunteer cereals and other weeds listed, use 2.25 to 3.00 pints (1.13 to 1.50 lb a.i./A) per acre per application.

After weed emergence: Apply **A378.01** at earliest possible weed growth stage but not later than the 4-leaf stage. Rattail fescue, wild oats, and volunteer cereals which are more difficult to control, must be treated no later than the 2-leaf stage. Apply 2.25 to 3.00 pints (1.13 to 1.50 lb a.i./A) per acre per application. Use the highest rate where rattail fescue, wild oats, and volunteer cereals are present and where weed infestation is heavy.

NEW SEEDINGS OF FALL-PLANTED PERENNIAL RYEGRASS AND TALL FESCUE TREATED WITH DIURON PLUS CHARCOAL

Timing of application: Apply **A378.01** following crop emergence and after sufficient rainfall and/or overhead irrigation has occurred to dissipate the charcoal band (approximately 4 inches). Use dosage rates listed in Dosage Table 10. Surface debris may result in reduced weed control. Failure to allow for complete dissipation of the charcoal band may result in reduced weed control within the crop row. For best results, apply **A378.01** to a moist soil surface.

Before using diuron, read the diuron label for rate directions, timing of applications, directions for use, and precautionary statements. **DO NOT** exceed maximum dosage rates for either herbicide.

NOTE: **DO NOT** apply **A378.01** when crop shows diuron injury.

DOSAGE TABLE

Crop	Rate Per Acre	Remarks

Perennial ryegrass and tall fescue	1.50 to 3.00 pints (0.75 to 1.50 lb a.i./A)	For effective control, annual bluegrass must be treated before the 4-leaf stage; rattail fescue, wild oats, and volunteer wheat must be treated before the 2-leaf stage. Use the lower rate for control of annual bluegrass and common chickweed; use the higher rate for control of rattail fescue, wild oats, and other weeds listed.

After weed emergence: Apply **A378.01** at earliest possible weed growth stage but not later than the 4-leaf stage. Rattail fescue, wild oats, and volunteer cereals which are more difficult to control, must be treated no later than the 2-leaf stage. Apply 2.25 to 3.00 pints (1.13 to 1.50 lb a.i./A) per acre per application. Use the highest rate where rattail fescue, wild oats, and volunteer cereals are present and where weed infestation is heavy.

ESTABLISHED STANDS OF PERENNIAL RYEGRASS AND TALL FESCUE

Before weed emergence: Apply **A378.01** at 2.25 to 3.00 pints (1.13 to 1.50 lb a.i./A) per acre per application prior to weed emergence. Use higher rate where rattail fescue, wild oats, and volunteer cereals are expected to be a problem. For best results, apply to moist soil. Crop residue and debris will reduce effectiveness of treatment and must be removed or destroyed.

After weed emergence: Apply **A378.01** at earliest possible weed growth stage but not later than the 4-leaf stage. Rattail fescue, wild oats, and volunteer cereals which are more difficult to control, must be treated no later than the 2-leaf stage. Apply 2.25 to 3.00 (1.13 to 1.50 lb a.i./A) pints per acre per application. Use the higher rate where rattail fescue, wild oats, and volunteer cereals are present. Where weed pressure is very heavy and rattail fescue is at the maximum stage of growth for treating, a rate of 3.00 pints (1.50 lb a.i./A) of **A378.01** is specified.

ESTABLISHED STANDS OF BENTGRASS

Apply only to well-established stands which have been seeded for not less than 12 months. Straw from previous crop must be removed or destroyed. Failure to do so may result in reduced weed control.

Before weed emergence: Apply **A378.01** at 1.50 to 3.00 pints (0.75 to 1.50 lb a.i./A) per acre per application prior to weed emergence. Use higher rate where rattail fescue, wild oats, and volunteer cereals are expected to be a problem. For best results, apply to moist soil.

After weed emergence: Apply **A378.01** at earliest possible weed growth stage, but no later than the 4-leaf stage. Rattail fescue, wild oats, and volunteer cereals which are more difficult to control, must be treated no later than the 2-leaf stage. Apply at the rate of 1.50 to 3.00 pints (0.75 to 1.50 lb a.i./A) per acre per application. Use higher rate when rattail fescue, wild oats, and volunteer cereals are a problem. **DO NOT** apply more than 3.00 pints (1.50 lb a.i./A) of **A378.01** per acre per application on bentgrass.

ESTABLISHED STANDS OF KENTUCKY BLUEGRASS (UNDER IRRIGATION ONLY)

Apply only to established stands which have been seeded for at least 12 months. Crop residues, carbon, and debris must be removed. Failure to do so may result in reduced weed control. **A378.01** is compatible with currently labeled grass seed herbicides. Consult your local fieldman for specified uses.

Before weed emergence: Apply **A378.01** at 2.00 pints (1 lb a.i./A) per acre per application prior to weed emergence. For best results, apply to moist soil. Apply at least 1/2 inch irrigation within 2 to 3 days after treatment to incorporate **A378.01**.

After weed emergence: Apply **A378.01** at 2.00 pints (1.00 lb a.i./A) per acre per application at the earliest possible weed growth stage, but no later than the 4-leaf stage. For best results, apply to moist soil. Apply at least 1/2 inch irrigation within 2 to 3 days after treatment to incorporate **A378.01**.

USE PRECAUTIONS

A378.01 may cause stunting and stand reduction of newly seeded perennial ryegrass and tall fescue if the crop is planted late in the fall and subjected to adverse climatic conditions or pesticides which restrict normal growth.

If vegetative matter or stover from previous crop was burned, sufficient rainfall or overhead irrigation must have occurred to dissipate the charcoal residue remaining after burning prior to **A378.01** treatment. Failure to allow for dissipation of charcoal residue may result in reduced weed control.

COMMERCIAL SOD PRODUCTION PRODUCT INFORMATION

[(For use in California, Idaho, Nevada, Oregon, and Washington only)]

A378.01 is a selective herbicide for use in established and newly planted tall fescue and perennial ryegrass grown for sod in California, Idaho, Nevada, Oregon, and Washington. **A378.01** may be applied preemergence or postemergence for the control of weed species listed below. Overhead irrigation or rainfall shortly after application is necessary for activation.

DO NOT harvest treated sod for 16 days following application.

Residual control of weeds is dependent upon soil moisture conditions; rate of herbicide used, and soil texture. The activity of **A378.01** in the soil is reduced as soil texture becomes finer and organic matter/thatch increases.

RATE RESTRICTIONS

- **DO NOT** apply more than 3.00 pints of product (1.50 lb a.i./A) per acre per application.
- **DO NOT** apply more than 2 applications per year when applied at reduced rates.
- **DO NOT** apply more than 3.00 pints of product (1.50 lb a.i./A) per acre per year.
- Minimum Retreatment Interval: 28 days.

WEEDS CONTROLLED

Annual bluegrass	*Poa annua*
Large crabgrass	*Digitaria sanguinalis*
Green foxtail	*Setaria viridis*
Yellow foxtail	*Setaria glauca*
Canarygrass	*Phalaris canariensis*
Volunteer barley	*Hordeum* sp.
Volunteer wheat	*Triticum* sp.
Wild oats	*Avena fatua*
Rattail fescue	*Festuca myuros*
Common velvetgrass	*Holcus lanatus*
Mannagrass	*Glyceria* sp.
Downy brome	*Bromus tectorum*
Soft chess	*Bromus mollis*

Spray equipment: Use a fixed-boom power sprayer properly calibrated to a constant speed and rate of delivery. **DO NOT** use smaller than a 50-mesh strainer. Avoid overlapping of spray swath. Shut off boom while starting, turning, or stopping to avoid over-application. Make applications in 10 to 50 gallons of water per acre at low pressure (20 to 50 psi).

Soil preparation: All existing vegetative matter must be thoroughly worked into the soil surface before planting. Large clods, trash, or vegetative matter left on the soil surface will reduce effectiveness of the **A378.01** treatment.

NEWLY PLANTED PERENNIAL RYEGRASS AND TALL FESCUE GROWN FOR SOD

Apply **A378.01** to newly planted areas when crop reaches the 2-to 3-leaf stage of growth. For best results, apply to moist soils.

Before weed emergence: Apply **A378.01** at 2.25 to 3.00 pints (1.13 to 1.50 lb a.i./A) per acre per application prior to weed emergence. Use the higher rate where rattail fescue, wild oats, and volunteer cereals are expected to be a problem.

After weed emergence: Apply **A378.01** at earliest possible weed growth stage but no later than the 4-leaf stage. Rattail fescue, wild oats, and volunteer cereals which are more difficult to control, must be treated no later than the 2-leaf stage. Apply **A378.01** at 2.25 to 3.00 pints (1.13 to 1.50 lb a.i./A) per acre per application.

ESTABLISHED PERENNIAL RYEGRASS AND TALL FESCUE SOD

For preemergence and/or postemergence control of susceptible weeds, apply **A378.01** prior to weed emergence or at the earliest possible weed growth stage, but not later than the 4-leaf stage. For best results, apply to moist soils. Apply **A378.01** at 2.25 to 3.00 pints (1.13 to 1.50 lb a.i./A) per acre per application. Repeat applications at 4 to 8 week intervals may be needed to maintain weed control. **DO NOT** apply more than 3.00 pints of product (1.50 lb a.i./A) per acre per year for perennial ryegrass and tall fescue sod.

USE PRECAUTIONS

A378.01 may cause stunting, and stand reduction of newly seeded perennial ryegrass and tall fescue, if the crop is planted late in the fall and subjected to adverse climatic conditions or pesticides which restrict normal growth.
If vegetative matter or stover from previous crop was burned, sufficient rainfall or overhead irrigation must have occurred to dissipate the charcoal residue remaining after burning prior to **A378.01** treatment. Failure to allow for dissipation of charcoal residue may result in reduced weed control.

ORNAMENTAL TURF USE PRODUCT INFORMATION

[(Not for Use in California)]

A378.01 is a herbicide intended for use on ornamental turf including golf courses, parks, cemeteries and residential or commercial lawns, and after overseeding specific grasses. It may be used on established perennial ryegrass, Kentucky bluegrass, creeping bentgrass, turf-type tall fescue, St. Augustinegrass, and dormant bermudagrass for the control and/or suppression of the annual grasses and broadleaf weeds listed in the tables below. **A378.01** is intended for commercial use only.

A378.01 has both preemergent and early (two-leaf stage) postemergence activity and works best in programs emphasizing both approaches. **A378.01** application is most effective on healthy, vigorously growing turf.

WEED SPECIES CONTROLLED

PREEMERGENCE

Annual Grasses
Barnyardgrass *(Echinochloa crus-galli)*
Bluegrass, annual *(Poa annua)* Canarygrass *(Phalaris canariensis)* Crabgrass, large *(Digitaria sanguinalis)* Crabgrass, smooth

(Digitaria ischaemum) Foxtail, green *(Setaria viridis)*
Foxtail, yellow *(Setaria glauca)*

Annual Broadleaves
Burclover *(Medicago sp.)*
Chickweed, common *(Stellaria media)*
Purslane, common *(Portulaca oleracea)*
Pigweed, redroot *(Amaranthus retroflexus)*

A378.01 will also reduce competition from: Nutsedge, purple *(Cyperus rotundus)*
Nutsedge, yellow *(Cyperus esculentus)*

POSTEMERGENCE

Annual Grasses
Bluegrass, annual *(Poa annua)*

Annual Broadleaves
Chickweed, common *(Stellaria media)*
Clover, white *(Trifolium repens)*

PREEMERGENCE/EARLY POSTEMERGENCE

Annual Grasses
Crabgrass, large *(Digitaria sanguinalis)*
Crabgrass, smooth *(Digitaria ischaemum)*

RESTRICTIONS

- **DO NOT** apply more than 3.00 pints (1.50 lb a.i./A) per acre in a single application.
- **DO NOT** apply more than 2 applications per year when applied at reduced rates.
- **DO NOT** apply more than 3.00 pints (1.50 lb a.i./A) per acre per year
- Minimum Retreatment Interval: 21 days.
- **A378.01** is not intended for residential use and must be applied to residential lawns by licensed or certified applicators.
- **DO NOT** OVER APPLY **A378.01**. Follow the instructions in this label or damage to non-target turf may result.
- **DO NOT** apply with hand-held or flood jet nozzles because treatments may not be uniform.
- **DO NOT** apply this product through any type of irrigation system.
- Delay application of **A378.01** at least 8 weeks after application of a Plant Growth Regulator although a **A378.01** program may be initiated on creeping bentgrass 3 weeks after a single application of trinexapac-ethyl has been applied.
- **DO NOT** apply **A378.01** to putting greens.
- **DO NOT** apply **A378.01** to zoysiagrass and hard or fine fescue to avoid serious injury.

PRECAUTIONS

- Spray overlap can cause turf injury due to over application. Use of a spray colorant or indicator is advised so that spray overlap can be avoided.
- When using **A378.01**, overseed to prevent stand thinning as a result of loss of annual bluegrass. Use the rate of **A378.01** listed for the overseeded species when overseeding. In mixed stands of established turfgrasses, use the rate listed for the *least* resistant species.

Spray Equipment, Application, and Precautions
Use standard, low-pressure (20 to 50 psi) spray equipment to apply **A378.01**. Calibrate spray equipment prior to use and frequently check the equipment during application. Use a spray indicator to aid in even application. Prior to and after applying **A378.01**, thoroughly clean and rinse the spray tank and line.

Varietal Resistance

Ethofumesate (the active ingredient in **A378.01**) has been used on the following turfgrass cultivars. However, **A378.01** can be used on other cultivars. Prior to large- scale use of **A378.01** on cultivars other than those listed below, test a small area for resistance.

- **CREEPING BENTGRASS-** The following cultivars have shown good to excellent resistance to **A378.01**: Carmen, Cobra, Highland, Lopez, Mariner, National, Penncross, Providence, Putter, Southshore, SR1020, and Viper.
  Injury has been occasionally noted on Emerald, Penneagle, and Pennilinks cultivars.
  A378.01 may cause serious injury to Cohansey, Colonial, south German varieties, Egmont, Bardot, Tracenta, Allure, Astoria, and SR7100.
- **DORMANT BERMUDAGRASS-** Tifgreen, Tidwarf and Common bermudagrass are more susceptible to **A378.01** than hybrid bermudagrass.
- **KENTUCKY BLUEGRASS-** Adelphi, American, Aspen, Asset, Challanger, Classic, Emundi, Huntsville, Georgetown, Glade, Haga, Julic, Liberty, Merit, Midnight, Monopoly, Mystic, Parade, Rugby, Sydsport, Touchdown. NOTE: **DO NOT** APPLY to Explorer, Limousine, Northstar, RAN I and Total Eclipse.
- **PERENNIAL RYEGRASS-** Acclaim, Blazer, Dasker, Derby, Elka, Fiesta, Goalie, Hunter, Linn, Loretta, Manhattan II, Palmer, Pennfine, Regal, Yorktown.
- **ST. AUGUSTINEGRASS-** Raleigh
- **TURF-TYPE FALL FESCUE-** America, Arid, Mustang

- For fall control of annual bluegrass, begin applications of **A378.01** during the period of maximum weed germination and end as close to the first killing freeze aspossible.
- Spring applications must be made during the period of maximum weed germination. Consult your weed science specialist or university extension service for the directed application timing in your area. Spring applications are most effective following fall applications.

SEE CHART BELOW FOR USE RATES AND TIMINGS AND READ TEXT BELOW FOR SPECIFIC DIRECTIONS FOR EACH TYPE OF GRASS.

Application Rates and Timings

Turf Type	Primary Targets	Application Timing	Use Rate[1]		# of Apps[5] Per Year	Application Interval (Days)	Overseeding Safety Interval[3] (Weeks After Treatment)	Application Safety Interval[4] (Weeks After Emergence)
			Pints/Acre	Oz/1,000 Sq. Ft.				
Creeping Bentgrass	Annual Bluegrass	Fall Spring[2]	1.50 (0.75 lb a.i./A) 1.50 (0.75 lb a.i./A)	9/16 9/16	0-2 0-2	21-28 21-28	4	4
Kentucky Bluegrass	Annual Bluegrass	Fall	1.50 (0.75 lb a.i./A)	9/16	2	21-28	6	8
Ryegrass	Annual Bluegrass	Fall Spring	2.00-3.00 (1.00 – 1. 50 lb a.i./A)	3/4-1.1	0-1 0-1	N/A N/A	1-2	1-2
St. Augustinegrass (Est. Turf)	Bermudagrass Suppression	Spring	1.50 (0.75 lb a.i./A)	9/16	2	21-28	N/A	N/A
Turf-Type Tall Fescue	Annual Bluegrass	Fall	1.50-3.00 (0.75 - 1.50 lb a.i./A)	3/4-1.1	1-2	21-28	0	2-3
Overseeded (ryegrass) Bermudagrass: Dormant Bermudagrass	Annual Bluegrass	Fall	1.50-3.00 (0.75 – 1.50 lb a.i./A)	9/16 - 1.1	1-2	21-28	N/A	N/A
Nondormant Bermudagrass	Annual Bluegrass	Fall	2.00-2.25 (1.00 – 1.13	3/4-7/8	1	N/A	N/A	N/A

			lb a.i./A)					

N/A= Not applicable.
[1] Apply **A378.01** in 20 to 60 gallons of water per acre or 1 to 3 gallons of water per 1,000 sq. ft.
[2]Only make spring applications after previous fall treatments.
[3]After the last treatment of **A378.01**, the interval provided applies to overseeding of the specific grass on same type of grass to which **A378.01** was applied.
[4]**A378.01** may be applied to specific grass following seed emergence after the specified time interval.
[5]**DO NOT** exceed the maximum single application rate or yearly maximum application rate of 3.00 pints (1.50 lb a.i./A) per acre (i.e. a split application of 1.50 pints (0.75 lb a.i./A) per acre once in the spring and once in the fall OR a single application of 3.00 pints (1.50 lb a.i./A) per acre in either the spring or the fall).

INSTRUCTIONS FOR SPECIFIC GRASS TYPES

COOL SEASON TURFGRASSES

Creeping Bentgrass

Apply **A378.01** to bentgrass as long as the turf is at a length typically found on fairways (or longer). When applying to bent-grass, use the following guidelines.

INSTRUCTIONS

- Avoid using **A378.01** in areas that are heavily shaded and/or poorly drained.
- Creeping bentgrass resistance to **A378.01** may be improved by tank mixing **A378.01** with nitrogen fertilizer (controlled release or soluble) at a rate of 0.10 to 0.25 lb N per 10,000 ft^2. This may also improve creeping bentgrass conversion in the areas treated.
- Control of annual bluegrass is best achieved by making two applications of **A378.01**; one in the fall followed by one in the spring.
- **A378.01** works best in the spring if applied after creeping bentgrass has resumed active growth and is fully green.

When overseeding with creeping bentgrass, use the following guidelines:

- After applying **A378.01**, wait a minimum of 3-4 weeks before overseeding with bentgrass.
- When an area has been renovated or overseeded with bentgrass, **DO NOT** apply **A378.01** until 3-4 weeks after seedling emergence.

Kentucky Bluegrass

INSTRUCTIONS

- Delay application of **A378.01** to bluegrass until at least 8 weeks after emergence.
- Bluegrass overseeded with ryegrass may be treated with **A378.01** 1-2 weeks after ryegrass emergence.

When overseeding with Kentucky Bluegrass use the following guidelines:

- Wait at least six weeks after the last **A378.01** application before reseeding with Kentucky bluegrass.
- Note that sod quality during the spring may be diminished following the fall applications of **A378.01**. Alternatives to fall application of **A378.01** include seeding with dormant bluegrass in the late fall or to delay reseeding until the spring.

Perennial Ryegrass

Control of annual bluegrass in perennial ryegrass is easiest when it is newly emerged, and application of **A378.01** is made during the primary period of annual bluegrass germination (and up to 30 days after annual bluegrass emergence) in the fall and/or spring. Consult your local Extension Service or university weed specialist for the date(s) that annual bluegrass germinates in your area.

RESTRICTIONS

- **DO NOT** apply more than 1.50 pints (0.75 lb a.i./A) per acre per application (0.50 oz./1,000 sq. ft.) once in the fall and once in the spring.
- **DO NOT** apply more than 2 applications per year.

- **DO NOT** apply more than 3.00 pints of product (1.50 lb a.i./A) per acre per year.
- Application in the fall or spring will also reduce competition from selected broadleaf weeds and crabgrass.

When overseeding with perennial ryegrass, use the following guidelines:

- Wait 1-2 weeks (or until the seedlings are approximately 1" tall) before applying **A378.01** to the seeded area.
- To the extent possible, thatch must be removed from the area being seeded as it can diminish the effectiveness of the **A378.01** treatment.
- **DO NOT** apply mulch or straw to the seeded areas until after **A378.01** has been applied.

Turf-Type Tall Fescue

Make **A378.01** applications to turf-type tall fescue in the fall. If overseeding with turf- type tall fescue, application of **A378.01** may be done at the same time as seeding**.**

RESTRICTIONS

- **DO NOT** apply more than a total of 3.00 pints of product (1.50 lb a.i./A) per acre in a single application.
- **DO NOT** apply more than 2 applications per year when applied at reduced rates.
- **DO NOT** apply more than a total of 3.00 pints of product (1.50 lb a.i./A) per acre per year.
- Minimum Retreatment Interval: 21 days.

WARM SEASON TURFGRASSES

St. Augustinegrass (Established Turf)

A378.01 suppresses the development of actively growing Bermudagrass in established St. Augustine sod. Apply **A378.01** to St. Augustinegrass in the spring and early summer to suppress Bermudagrass and Bermudagrass seedhead formation and/or for control of annual bluegrass.

RESTRICTIONS

- **DO NOT** treat St. Augustinegrass in the first six months after germination.
- **DO NOT** treat St. Augustinegrass that is under stress or injury to the turf may result.
- Temporary stunting and minor discoloration of St. Augustinegrass may occur after application. If the St. Augustinegrass shows signs of severe yellowing or stunting, discontinue applications.

Use the following guidelines when applying **A378.01** to St. Augustinegrass:

- Begin **A378.01** applications when Bermudagrass first breaks dormancy in the spring. Application timing is critical to achieve optimum results and will vary depending on location and temperature.
- For best results, make two applications of **A378.01** at 1.50 pints (0.75 lb a.i./A) per acre (0.50 oz./1,000 sq. ft.) with the second application being made 21-28 days after the first application.
- To improve suppression, each application of **A378.01** may be tank-mixed with (Atrazine at up to 2.00 lb ai/A for first application and 0.75 lb-1.00 lb ai/A triazine for second or third application).

Overseeded Dormant Bermudagrass

RESTRICTIONS

- **DO NOT** make more than one application at 3.00 pints (1.50 lb a.i./A) per acre (1.00 oz./1,000 sq. ft) of **A378.01** when treating nondormant bermudagrass. Treatment to turf that is not fully dormant may cause early injury and/or delayed spring green-up.
- Application of **A378.01** to bermudagrass that is stressed due to shade, poorly drained soils, and high traffic may result in increased turf injury. Avoid use of **A378.01** or use lower rates under these conditions.

Use the following guidelines when applying **A378.01** to Bermudagrass:

- To control annual bluegrass, make applications of **A378.01** in late fall (ideally 1-2 weeks after emergence of overseeded perennial ryegrass) on overseeded bermudagrass.

- When **A378.01** is applied in late November or early December, applications of 2.00-2.25 pints (1.00-1.13 lb a.i./A) per acre per application have shown acceptable control of annual bluegrass with minimum injury to nondormant (or predormant) bermudagrass. If lower rated are used, expect reduced control of annual bluegrass. If higher rates are used, increased injury to Bermudagrass may occur.
- **A378.01** must not be applied to Bermudagrass in the 4 weeks prior to breaking winter dormancy. Applications made to Bermudagrass in the 4 weeks prior to breaking dormancy may temporarily delay the normal start of active growth.

When overseeding bermudagrass, use the following guidelines:

- Common bermudagrass in fairways or roughs may be more susceptible to herbicide injury than hybrid bermudagrass.
- When making applications to nondormant bermudagrass, **A378.01** must be kept within areas that are overseeded so that the ryegrass will mask any early injury or late transition in the spring that may occur.
- Using a higher than normal seeding rate may be desirable in order to minimize the appearance of thin turf.

A378.01 MIXTURES WITH FERTILIZERS

A378.01 Impregnation on Dry Bulk Fertilizers

A378.01 may be impregnated on many dry bulk fertilizers (See "1" below) and applied for the control of labeled grasses and broadleaf weeds on turf, and applied and incorporated into the soil before planting in sugar beets.

All **A378.01** label and supplementary literature instructions and precautions regarding rates per acre, soil type, application, and other directions must be followed. All individual State regulations relating to dry bulk fertilizer blending, registration, labeling and application are the responsibility of the individual and/or company selling the **A378.01** fertilizer mixtures. A minimum of 200 pounds and a maximum of 700 pounds of approved fertilizer ingredients (See "2" below) impregnated with the appropriate amount of **A378.01** must be applied per acre. For impregnating the pesticide on dry fertilizers, use a closed rotary drum type mixer equipped with suitable spraying equipment. The spray nozzles must be positioned inside of the mixer to provide uniform spray coverage of the tumbling fertilizer. The **A378.01** must be sprayed uniformly onto the fertilizer using a fine spray pattern.

The physical properties of fertilizers vary, particularly in liquid absorptive capacity. When absorptivity is sufficient, simple spray impregnation of the fertilizer with **A378.01** provides a satisfactory dry mixture. If the absorptivity is not adequate, use of a highly absorptive powder is required to provide a dry, free-flowing mixture. Microcel E (Johns-Manville Products Corporation) is the advised absorbent powder. It must be added separately and uniformly to the prepared pesticide/fertilizer mixture in a quantity that is sufficient to provide a suitably free-flowing mixture. Less than 2% by weight of Microcel E is required.

The amount of **A378.01** actually required in the formulation of specific fertilizer mixtures must be calibrated carefully for each production operation. This is necessary to ensure that the amount of **A378.01** actually contained in the fertilizer mixture applied to the soil represents the correct dosage rate.

Bulk fertilizers impregnated with **A378.01** must be applied immediately, NOT STORED.

1. **Approved dry fertilizer ingredients for use with A378.01. A378.01 Impregnation on Dry Bulk Fertilizers**

	N	P	K
Ammonium nitrate	34	0	0
Ammonium sulfate	21	0	0
Ammonium phosphate-sulfate	16	20	0
Diammonium phosphate	18	46	0
Monoammonium phosphate	11	56	0
Potassium chloride	0	0	60
Potassium sulfate	0	0	52

Single superphosphate	0	20	0
Triple superphosphate	0	46	0
Urea	45	0	0

A378.01 Physical Data	
Density	1.15 g/cm^3
Pounds/gallon	9.60
Flashpoint	Non-combustible

2. Rate Chart for the Impregnation of Dry Bulk Fertilizers with A378.01: Gallons of A378.01 per Ton of Dry Bulk Fertilizer

Fertilizer Rate lb/acre	2.25 pt./acre	Impregnation Rate 3 pt./acre	4.5 pt./acre
200	2.80	3.75	5.63
250	2.25	3.00	4.50
300	1.88	2.50	3.75
350	1.59	2.16	3.19
400	1.41	1.88	2.81
450	1.25	1.69	2.50
500	1.13	1.50	2.25
550	1.03	1.38	2.06
600	0.94	1.25	1.88
650	0.87	1.13	1.75
700	0.80	1.08	1.62

A378.01 with Liquid Fertilizer

The following procedure is suggested for evaluation of physical compatibility of **A378.01** in mixtures with liquid fertilizers for spray tank applications.

Material Required

1. **A378.01** - components of tank sizes if intended for use
2. Liquid fertilizer to be used.
3. Adjuvant for fertilizer tank mix: Compex* or E-Z Mix**
4. Two (or more) one quart wide mouth containers with lids or stoppers
5. Measuring spoons (25 ml pipette or graduated cylinder provides more accurate measurement)
6. Measuring cup, 8 fl. oz. (237 ml)

*Compex, Kalo Baloratories, Inc., Kansas City, MO

**E-Z Mix, United Agri-Products, Greeley, CO

Procedure

1. Pour one pint (473 ml) of the liquid fertilizer into each of the quart containers.
2. Add adjuvant(s) to one or more of the containers and mix; follow label directions of adjuvant.
3. Add the **A378.01** and tank mix components to the containers (see rate table below).
4. Close the containers with lids or stoppers and mix contents by inverting the containers ten times.
5. Inspect the surface and body of mixture:
   a. immediately after mixing
   b. after allowing mixtures to stand quietly for 30 minutes,
   c. immediately after mixing again (invert the containers ten more times).

If uniform mixture does not occur, the spray tank mixture must not be used. If any of the mixtures remain uniform for 30 minutes, that mixture may be used in spray tank applications. If any of the mixtures separate after 30 minutes

but remix readily into a uniform mixture with inversion of the container, the mixture may be used provided that adequate agitation is maintained in the spray tank. If a **A378.01** plus fertilizer mixture utilizing an adjuvant is satisfactory, but the one without adjuvant is not, be sure to use the adjuvant in the spray tank at the rate specified on the label which was used in the test.

If non-dispersible oil, sludge, or clumps of solids form in the mixtures, those combinations must not be used for spray tank application.

Rate Table for A378.01 Mixtures with Liquid Fertilizers

Gal. of Liquid Fertilizer to be applied per acre	ml or tsp of A378.01 to be added to 1 pint of fertilizer	
gal	ml	tsp.
20	17.60	3.60
30	12.00	2.40
40	9.00	1.90
50	7.10	1.50
60	6.00	1.20

* Based on field rate of 3.00 lb. ai/acre (3/4 gal/acre) in the fertilizer volumes indicated. Adjust amount of **A378.01** added proportionately to correspond with intended field use rate listed on **A378.01** label (taking into account soil type when using on sugar beets). Add the proportionate amount of tank mix component (e.g., chloridazon) if intended for use, based on volume of **A378.01** used in the test.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Protect product from freezing temperatures.

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

CONTAINER HANDLING: Nonrefillable container. **DO NOT** reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying.

[Nonrefillable containers; ≤ 5 gallons:] [Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.]

[**Nonrefillable > 5 gallons:]** [Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.]

LIMITATION OF WARRANTY AND LIABILITY

IMPORTANT: READ BEFORE USE. Read the entire Directions for Use, Conditions of Warranties and Limitations of Liability before using this product. If these terms and conditions are not acceptable, return the unopened product container at once. By using this product, user or buyer accepts the following 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. Ineffectiveness, injury, and other unintended consequences may result because of such factors as manner of use or application (including misuse), the presence of other materials, weather conditions, and other unknown factors, all of which are beyond the control of ATTICUS, LLC. All such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: To the extent consistent with applicable law, ATTICUS, LLC makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond statements on this label. **LIMITATIONS OF LIABILITY**: To the extent consistent with applicable law, neither ATTICUS, LLC the manufacturer, nor the Seller shall be liable for any indirect, special, incidental or consequential damages resulting from the use, handling, application, storage, or disposal of this product. 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, handling, application, or storage of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid.

[**A378.01**] is a trademark of Atticus, LLC

{LANGUAGE ON LABEL AFFIXED TO CONTAINER}

ETHOFUMESATE	GROUP	8	HERBICIDE

A378.01™

[*Alternate Brand Name:* Nektron SC]

[Suspension Concentrate]

[BROAD SPECTRUM HERBICIDE for selective control of weeds in sugar beets, garden beets, onions, garlic, shallots (in all states) and carrots in Washington and Oregon only. [GRASS SEED HERBICIDE for selective control of weeds in certain grass seed crops and commercial sod production in [California, Idaho, Nevada, Oregon and Washington].] [TURF HERBICIDE for selective control of weeds, on Ornamental Turf]

ACTIVE INGREDIENT:	**(% by weight)**
Ethofumesate (2-ethoxy-2, 3-dihydro-3, 3-dimethyl-5-benzofuranyl methanesulfonate)	42.0%
OTHER INGREDIENTS:	58.0%
TOTAL	100.0%

This product contains 4.0 lbs. active ingredient per gallon.

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.)

FIRST AID	
If swallowed:	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • **DO NOT** induce vomiting unless told to do so by the poison control center or doctor. • **DO NOT** give anything by mouth to an unconscious person.
If on skin or clothing:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
If 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 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.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact SafetyCall at **1-844-685-9173** for emergency medical treatment information.	

For Chemical Emergency:
Spill, Leak, Fire, Exposure, or Accident, Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300 or +1 703-527-3887 (collect calls accepted)

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

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

ENVIRONMENTAL HAZARDS: This 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. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. **DO NOT** contaminate water when disposing of equipment washwaters or rinsate

STORAGE AND DISPOSAL

DO NOT contaminate water, food, or feed by storage or disposal.
PESTICIDE STORAGE: Protect product from freezing temperatures.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.
CONTAINER HANDLING: Nonrefillable container. **DO NOT** reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying.

[Nonrefillable containers; ≤ 5 gallons:] [Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.]

[**Nonrefillable > 5 gallons**:] [Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.]

See inside label booklet for additional Precautionary Statements and Directions for Use.

Manufactured for:
Atticus, LLC
5000 CentreGreen Way, Suite 100
Cary, NC 27513

EPA Reg. No.: 91234-XX
EPA Est. No.: _____
NET WEIGHT: _____