

279-3323

11/21/2008

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Dr. Callista O. Chukwunehye, PhD.
Product Registration
FMC Corporation
1735 Market Street
Philadelphia, PA 19103

NOV 21 2008

Subject: Notification(s) for Label Revisions under PRN 98-10 and PRN 2007-4
Storage & Disposal and Other Changes

Dear Registrant:

The Agency is in receipt of your Application(s) for Pesticide Notification under Pesticide Registration Notices (PRN) 98-10 and 2007-4 dated October 20, 2008 for:

EPA Registration 279-3323 "Echelon 4SC Herbicide"

The Registration Division (RD) has conducted a review of the request(s) for applicability under PRN 98-10 and PRN 2007-4 and finds that the label changes requested fall within the scope of PRN-98-10 and PRN-2007-4. The label has been date-stamped "Notification" and will be placed in our records.

Please be reminded that 40 CFR Part 156.140(a)(4) requires that a batch code, lot number, or other code identifying the batch of the pesticide distributed and sold be placed on non-refillable containers. The code may appear either on the label (and can be added by non-notification/PR Notice 98-10) or durably marked on the container itself.

If you have any questions, please contact me directly at 703-305-6249 or Owen F. Beeder of my staff at 703-308-8899.

Sincerely,

Linda Arrington
Notifications & Minor Formulations Team Leader
Registration Division (7505P)
Office of Pesticide Programs

Please read instructions on reverse before completing form.

Form Approved. OMB No. 2070-0060. Approval expires 2-28-95



United States
Environmental Protection Agency
Washington, DC 20460

<input type="checkbox"/>	Registration
<input type="checkbox"/>	Amendment
<input checked="" type="checkbox"/>	Other

OPP Identifier Number

Application for Pesticide - Section I

1. Company/Product Number FMC Corporation/ 279 -3323	2. EPA Product Manager Ms. Joanne I. Miller	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) FMC Corporation/Echelon 4SC Herbicide	PM# PM-23	
5. Name and Address of Applicant (Include ZIP Code) FMC Corporation 1735 Market Street Philadelphia, PA 19103 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. <u>279 - 3323</u> Product Name <u>Echelon 4SC Herbicide</u>	

Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

NOTIFICATION

NOV 21 2008

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Notification of warranty statement update and minor label change per PR Notice 98-10

This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of U.S.C. Sec.1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

Section - III

1. Material This Product Will Be Packaged In:

Child-Resistant Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2. Type of Container <input type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt No. per container

3. Location of Net Contents Information <input type="checkbox"/> Label <input checked="" type="checkbox"/> Container	4. Size(s) Retail Container	5. Location of Label Directions <input checked="" type="checkbox"/> on label/container
6. Manner in Which Label is Affixed to Product <input checked="" type="checkbox"/> Lithograph Paper glued Stenciled		<input type="checkbox"/> Other _____

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)

Name Callista O. Chukwunye, PhD	Title Manager, Product Registrations	Telephone No. (Include Area Code) (215)299-6592
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Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

6. Date Application Received
(Stamped)

2. Signature 	3. Title Manager, Product Registrations
4. Typed Name Callista O. Chukwunye, PhD	5. Date October 20, 2008

FMC Corporation

FMC Corporation
1735 Market Street
Philadelphia PA 19103

215.299.6000 phone
215.299.6947 fax
www.fmc.com

October 20, 2008

Ms. Joanne I. Miller
Document Processing Desk
Herbicide Branch, RD (7505P)
U.S. Environmental Protection Agency
One Potomac Yard, Room S-4900
2777 S. Crystal Drive
Arlington, VA 22202

Dear Ms. Miller:

Subject: Notification of warranty statement update, storage and disposal statement update, adding and deleting pests, table expansion/reformat, clarification of directions for use and minor label change per PR Notice 98-10 Echelon 4SC Herbicide (EPA Reg. No.: 279-3323)

FMC is notifying the EPA that we have made the subject notification-type label change as listed below:

Page 1: revised the label heading

Page 3-4: updated the storage and disposal per PR Notice 2007-4

Page 5: added clarifying language

Page 6-9: expanded and reformatted weed table and added clarifying language

Page 10: updated the warranty with the statement "to the extent consistent with applicable law".

The changes are shown in red text on the reference pages of the label. A copy is enclosed for your record.

Please do not hesitate to call me if you have any questions. My phone number is (215) 299-6592.

Sincerely,



Callista O. Chukwunye, Ph.D.
Manager, Product Registrations
Callista_chukwunye@fmc.com

Enclosures:

This letter

EPA Form 8570-1

1 copy of the label with the changes in red text

Electronic Pesticide Label CD-ROM for Echelon 4SC Herbicide

FMC

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ECHELON™ 4SC

Herbicide

For Preemergence and early postemergence Control of Crabgrass, selected annual grasses, sedges and annual broadleaf weeds in Turf Sites - Residential and Institutional Lawns, Athletic Fields, Commercial Sod Farms, Golf Course Fairways and Roughs, Roadsides, Utility right-of-ways, Railways and Industrial areas

EPA Reg. No. 279-3323

EPA Est. No.

Active Ingredient:	By Wt.
Sulfentrazone: N-[2,4-dichloro-5-[4-(difluoromethyl-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl)]phenyl]methanesulfonamide	13.6%
Prodiamine: [N3,N3-Di-n-propyl-2,4-dinitro-6-(trifluoromethyl)-m-phenylenediamine	27.3%
Other Ingredients:	<u>59.1%</u>
	100.0%

Echelon 4 SC contains 4.0 pounds of active ingredient per gallon
U. S. Patent No. 4,818,275

KEEP OUT OF REACH OF CHILDREN
CAUTION

See additional precautionary information contained inside label booklet.

NOTIFICATION

NOV 21 2008

FMC Corporation
Agricultural Products Group
1735 Market Street
Philadelphia PA 19103

10-15-08 Notification

FIRST AID	
IF INHALED	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
IF ON SKIN OR CLOTHING	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
IF SWALLOWED	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Do not give any liquid to the person. • 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.
HOTLINE NUMBER	
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-331-3148 for emergency medical treatment information.</p>	
<p>For Information Regarding the Use of this Product Call 1-800-321-1FMC(1362)</p>	

PRECAUTIONARY STATEMENTS

Hazards to Humans (and Domestic Animals)

CAUTION

Causes moderate eye irritation. Harmful if inhaled, swallowed, or absorbed through skin. Avoid breathing vapor or spray mist. Avoid contact with skin, eyes or clothing. Prolonged or frequently repeated skin contact while mixing or handling may cause allergic reactions in certain individuals.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear long-sleeved shirt and long pants, waterproof gloves, and shoes plus socks.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations:

- Users should remove clothing immediately if product gets inside. Then wash thoroughly and put on clean clothing.

Environmental Hazards

This product is toxic to marine/estuarine invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to terrestrial and aquatic plants in neighboring areas. Do not contaminate water when disposing of equipment wash waters or rinsate.

Groundwater advisory: Sulfentrazone is known to leach through soil into groundwater under certain conditions as a result of label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Do not use on coarse soils classified as sand which have less than 1% organic matter.

Surface water advisory: Sulfentrazone can contaminate surface water through spray drift. Under some conditions, sulfentrazone may also have a high potential for runoff into surface water (primarily via dissolution in runoff water), for several to many months post-application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlying extremely shallow groundwater, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-lying tile drainage systems that drain to surface waters.

DIRECTIONS FOR USE

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

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

Agricultural Use Requirements

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

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

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: Coveralls over long-sleeved shirt and long pants, chemical-resistant gloves made of any waterproof material, and shoes plus socks.

Non-Agricultural Use Requirements

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

Re-entry Statement: Do not allow people (other than applicator) or pets on treatment area during application. Do not enter treatment area until spray has dried.

Shake Well Before Using

STORAGE AND DISPOSAL

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

Pesticide Storage: Store product in original container only, away from other pesticides, fertilizer, food or feed. Store in a cool, dry place and avoid excess heat.

Spill: In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. **Confine spills. Call FMC: (800) 331-3148.**

To confine spill: If liquid, dike surrounding area or absorb with sand, cat litter or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

Pesticide Disposal: 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 Disposal:

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: (For containers greater than 5 gallons) 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. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. (For containers 5 gallons or less) 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. Triple rinse (or equivalent). Then offer for recycling if available, or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Returnable/Refillable Containers - Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

GENERAL INFORMATION

Turf Use Instructions

Echelon is a selective pre-emergence and post-emergence herbicide for control of crabgrass, annual grass and broadleaf weeds and sedges in turf sites including residential and institutional lawns, athletic fields, commercial sod farms, golf course fairways and roughs, roadsides, utility right-of-ways, railways and industrial areas.

Echelon is a flowable formulation (suspension concentrate) containing 4 lbs. of active ingredient per gallon. The mode of action of Echelon 4SC herbicide involves uptake by both weed roots and shoots of existing weeds and prevention of growth by newly emerged weed seedlings.

MIXING AND APPLICATION INSTRUCTIONS

General Handling Instructions

This product may not be mixed or loaded within 50 feet of any wells (including abandoned wells and drainage wells), sink holes, perennial or intermittent streams and rivers, and natural or impounded lakes and reservoirs. This setback does not apply to properly capped or plugged abandoned wells and does not apply to impervious pad or properly contained mixing/loading areas.

Operations that involve mixing, loading, rinsing or washing of this product into or from pesticide handling or application equipment or containers within 50 feet of any well, are prohibited unless conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be positioned on or moved across the pad. Such a pad shall be designed and maintained to contain any product spills or equipment leaks, container or equipment rinse or wash water, and rainwater that may fall on the pad. Surface water shall not be allowed to either flow over or from the pad, which means the pad must be self contained. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain at a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a roof of sufficient size to completely exclude precipitation from contact with the pad shall have a minimum containment capacity of 100% of the capacity of the largest pesticide container or application equipment on the pad. Containment capacities as described above shall be maintained at all times. The above specific minimum containment capacities do not apply to vehicles when delivering pesticide shipments to the mixing/loading site. States may have in effect additional requirements regarding wellhead setbacks and operational containment.

Product must be used in a manner which will prevent back siphoning in wells, spills or improper disposal of excess pesticide, spray mixtures or rinsates.

Spray Tank Preparation

It is important that spray equipment is clean and free of existing pesticide deposits before using this product. Follow the spray tank clean out procedures specified on the label of product previously applied before adding Echelon 4SC herbicide to the tank.

Echelon 4SC herbicide is a suspension concentrate intended for dilution with water. In certain applications, liquid fertilizer may replace water as diluent.

Mixing With Water

For best results, fill spray tank with one fourth of the volume of clean water needed for the area to be treated. Start the agitation system and add Echelon, 4SC herbicide to the tank. Make sure Echelon 4SC herbicide is thoroughly mixed before application or before adding another product to the spray tank.

Mixing With Liquid Fertilizers

The addition of a sprayable nitrogen fertilizer with a nitrogen Percentage above 20% may increase herbicidal activity on certain weeds and decrease turf tolerance on desirable turfgrass cultivars. Utilize local recommendations for sources and rates of fertilizer and refer to mixing directions on the fertilizer labels (e.g. UAN or urea solutions). Determine the compatibility of this product with the desired fluid fertilizer by mixing small proportional quantities in advance (See the Tank Mixtures Compatibility section below).

Tank Mixtures Compatibility

Echelon 4SC herbicide is believed to be compatible with most herbicides, fungicides, insecticides, growth regulators, liquid fertilizers and spray adjuvants commonly used in turf and ornamental plant management. However, when preparing a new tank mix conduct an appropriate compatibility test by mixing proportional amounts of all spray ingredients in a test vessel (jar) prior to tank mixing with other products. Shake the mixture vigorously and allow it to stand for five to ten minutes. Rapid precipitation of the ingredients and failure to re-suspend when shaken indicates that the mixture is incompatible and should not be applied. Provided the jar test indicates the mixture to be compatible, prepare the tank mixture as follows: Fill the tank one fourth full with water. With the agitator operating, add the recommended amounts of ingredients using the following order: dry granules first and liquid suspensions (flowable) second. As the agitation continues and the tank is filled with water add EC products third followed by the addition of water soluble products.

Read and observe mixing instructions of all tank mix partners. Also read each product's label for Directions for Use, Precautionary Statements and Restrictions and Limitations. The most restrictive labeling applies in all tank mixtures. No label dosage rate should be exceeded. Tank mixture recommendations are for use only in states where the companion products and application site are registered. In addition, certain states or geographical regions may have established dosage rate limitations. Consult your state Pesticide Control Agency for additional information regarding the maximum use rates.

Use Echelon 4SC herbicide spray mixture immediately after mixing. Do not allow spray solutions to stand or dry in the tank.

Ground Equipment

Power sprayers: Uniform and accurate spray coverage requires proper calibration and operation of spray equipment. The use of marker dyes or foams can improve application accuracy. Boom sprayers equipped with appropriate flat fan nozzles, tips and screens are ideal for broadcast applications. Power sprayers fitted with spray wand/gun may also be used for broadcast application after careful calibration by the applicator. Power sprayers fitted with spray wand/gun are suitable for spot treatments. It is important to avoid over application of this product due to excessive overlapping or spot treatment.

Hand operated sprayers: Backpack and compression sprayers are appropriate for small turfgrass areas and spot treatments. Wands fitted with a flat fan nozzle tip should be held stationary at the proper height during application. A side-to-side or swinging arm motion may result in uneven coverage or excessive application.

Apply this product in a sufficient volume of carrier solution to provide a uniform spray distribution. Spray volumes of 20 – 175 gallons per acre (0.5 to 4.0 gal/1,000 ft²) with spray pressures adjusted to 20 – 40 psi are appropriate. Apply the higher spray volumes for dense weed populations.

Sprayer Equipment Clean-Out

After spraying Echelon 4SC herbicide and before using sprayer equipment for any other applications, the sprayer must be thoroughly cleaned using the following procedure:

1. Drain sprayer tank, hoses, and spray boom and thoroughly rinse the inside of the sprayer tank with clean water to remove sediment and residues. In addition, thoroughly flush sprayer hoses, boom, and nozzles with clean water.
2. Fill the tank 1/2 full with clean water, and add appropriate detergent or ammonia (follow manufacturer's directions for use). Fill the tank to capacity and operate the sprayer for 15 minutes to flush hoses, boom, and nozzles.
3. Drain the sprayer system. Rinse the tank with clean water and flush through the hoses, boom, and nozzles. Remove and clean spray tips and screens separately.

4. Properly dispose of all cleaning solution and rinsate in accordance with Federal, State and local regulations and guidelines.

Do not drain or flush equipment on or near desirable trees or plants. Do not contaminate any body of water including irrigation water that may be used on other plants.

SPECIFIC USE INSTRUCTIONS IN TURFGRASS

Established Turf

This product may be used on seeded, sodded or sprigged turfgrasses that are well established. First application of this product can be made following the second mowing providing the grass has developed into a uniform stand with a good root system. Turf injury may result from application of this product on turf that is not well established or has been weakened by stresses such as unfavorable weather conditions, disease, chemical or mechanical influences.

When applied as directed under the conditions described, the following established grasses are tolerant to Echelon 4SC herbicide at the recommended use rates in a range from 0.250 to 1.125 lb. ai/acre (8 to 36 fl. oz./acre or 0.184 to 0.8264 fl. oz./1,000 sq. ft.). Do not exceed 1.125 lb. ai/acre (36 fl. oz./acre) per calendar year.

Table 1. Tolerant grasses.

Grass Type	Recommended Use Rates Do not exceed maximum use rates per turf species in a single application		
	Lb. ai. per acre	Fluid ounces per 1000 ft ²	Fluid ounces per acre
Cool Season Grasses			
Bentgrass, creeping ¹ Fescue, fine ² (<i>Festuca rubra</i>) Ryegrass, perennial (<i>Lolium perenne</i>)	0.25-0.375 ³ lb. ai.	0.184-0.275 fl. oz.	8-12 fl. oz.
Bluegrass, Kentucky (<i>Poa pratensis</i>) Fescue, tall ² (<i>Festuca arundinacea</i>)	0.57-0.75 ³ lb. ai.	0.413-0.551 fl. oz.	18-24 fl. oz.
Sequential Application for Mixed Cool Season Turf/Cool Season Blends consisting of:			
Fescue, fine ² (<i>Festuca rubra</i>), Ryegrass, perennial (<i>Lolium perenne</i>), Bluegrass, Kentucky (<i>Poa pratensis</i>) Fescue, tall ² (<i>Festuca arundinacea</i>)	0.375 lbs ai Follow by 0.25 - 0.375 lbs ai/a 30-60 days later	0.275 fl oz. Follow by 0.184 -0.275 fl oz 30- 60 days later	12 fl. oz. Follow by 6 to 12 fl oz 30 - 60 days later
Warm Season Grasses			
Bahiagrass (<i>Paspalum notatum</i>) Buffalograss (<i>Buchloe dactyloides</i>) Carpetgrass (<i>Axonopus affinis</i>) Centipedegrass (<i>Eremochloa ophioides</i>) Kikuyugrass (<i>Pennisetum clandestinum</i>) Seashore Paspalum (<i>Paspalum vaginatum</i>) Zoysiagrass (<i>Zoysia japonica</i>)	0.57-0.75 ³ lb. ai.	0.413-0.551 fl. oz.	18-24 fl. oz.
Bermudagrass (<i>Cynodon dactylon</i>) & hybrids	0.75-1.125 ³ lb. ai.	0.551-0.826 fl. oz.	24-36 fl. oz.

¹ If bentgrass is mowed lower than 0.5 inches do not apply Echelon.

² Use of this product on certain varieties of Chewing Fine Fescue or Tall Fescue cultivars may result in undesirable injury.

³ Echelon may be applied more than once per year if needed as long as total amount applied does not exceed the maximum application rate per turf type or 1.125 lbs. ai/acre (36 fl. oz./acre), whichever is lower.

- Use of this product on certain cultivars of Chewings Fescue, Fine Fescue or Tall Fescue cultivars may result in undesirable injury.
- Echelon 4SC application may cause temporary discoloration to exposed leaf surfaces on certain cultivars of zoysiagrass. Treated turfgrass will recover with new growth. Discolored leaf tissue will be removed with mowing. To reduce potential for discoloration, do not apply Echelon 4SC on turfgrass that is weakened by weather, mechanical, chemical, disease or other related stress. Maintain proper cultural practices such as adequate moisture and fertility levels to promote healthy turf growth.
- Echelon 4SC has demonstrated tolerance on both cool and warm season turfgrasses. However, not all varieties and or cultivars have been evaluated. Turfgrass managers desiring to treat newly released varieties should first apply Echelon SC to a small area prior to treatment of larger areas.

Table 1A. Applications for St Augustine Grass - Application of Echelon 4SC to St. Augustine Grass may cause temporary discoloration to exposed leaf surfaces of St. Augustine grass. Treated turfgrass will recover with new growth and discolored leaf tissue will be removed with mowing.

Do not apply Echelon 4SC to St Augustine grass if temporary discoloration cannot be accepted.

Warm Grass	Season	Lb.ai per acre	Fluid ounces per 1000ft ²	Fluid Ounces per acre
St. Augustine		0.57 lbs ai Follow by 0.57 lbs ai 45-60 days later	0.413 fl Oz. Follow by 0.413 fl oz 45- 60 days later	18 fl. oz. Follow by 18 fl oz 45 - 60 days later

Weed Controlled with Pre emergence Application

Table 2.

Common Name	Scientific Name
Barnyardgrass	(<i>Echinochloa crus-galli</i>)
Bluegrass annual ¹	(<i>Poa annua</i>)
Carpetweed	(<i>Mollugo verticillata</i>)
Carolina Geranium	<i>Geranium carolinianum</i>
Chickweed, common ²	(<i>Stellaria media</i>)
Chickweed, mouseear (from seed)	(<i>Cerastium vulgatum</i>)
Crabgrass (large, Smooth) ³	(<i>Digitaria spp.</i>)
Crowfootgrass	(<i>Dactyloctenium aegyptium.</i>)
Cupgrass, Woolly	(<i>Eriochloa villosa</i>)
Foxtails, Annual	(<i>Setaria spp.</i>)
Goosegrass ⁴	(<i>Eleusine indica</i>)
Hairy Bittercress	<i>Cardamine hirsute</i>
Henbit ⁴	(<i>Lamium amplexicaule</i>)
Itchgrass	(<i>Rottboellia exaltata</i>)
Knotweed, prostrate	(<i>Polygonum aviculare</i>)
Kochia	(<i>Kochia scoparia</i>)
Kyllinga, green	(<i>Kyllinga brevifolia</i>)
Kyllinga, false	(<i>Kyllinga gracillima</i>)
Lambsquarters, common	(<i>Chenopodium album</i>)
Lovegrass	(<i>Eragrostis spp.</i>)
Nutsedge, yellow	(<i>Cyperus esculentus</i>)
Panicum (Texas,Fall)	(<i>Panicum spp.</i>)
Pigweed, Redroot	(<i>Amaranthus retroflexus</i>)
Purslane, Common	(<i>Portulaca oleracea</i>)
Pusley, Florida	(<i>Richardia scabra L.</i>)
Sedge, globe	(<i>Cyperus globulosus</i>)
Sedge, cylindrical	(<i>Cyperus retrorsus</i>)
Sedge, Surinam	(<i>Cyperus surinamensis</i>)
Sedge, Texas	(<i>Cyperus polystachyos</i>)
Shephardspurse ⁴	(<i>Capsella bursa-pastoris</i>)
Signalgrass, broadleaf	(<i>Brachiaria playphylla</i>)
Speedwell	(<i>Veronica spp.</i>)
Sprangletop	(<i>Leptochloa spp.</i>)
Spurge, prostrate	(<i>Euphorbia humistrata</i>)
Witchgrass	(<i>Panicum capillare L.</i>)
Woodsorrel, yellow (from Seed)	(<i>Oxalis stricta</i>)

- Poa annua is a winter annual. Applications of Echelon should be made in August or September to established, non overseeded turf before Poa Annua germinates. Consult local Cooperative Extension Service for more specific applications timings for your local area since August and September are approximate timings.
- Apply Echelon in late summer, fall or winter before weed germinates for control.
- Crabgrass control in cool season grasses from fall application: Areas where the ground is subject to winter freezes, Echelon may be applied in the fall at rates listed in Table 1 (8-24 fluid ounces per acre) for cool season grasses when soil temperatures are below 50°F, but prior to the ground freezing. This will provide control of crabgrass the following spring.
- In areas of extended growing season and heavy pressure weed control will be enhanced by second application of Echelon 60-90 days after initial application

Postemergence Control of Annual, Biennial & Perennial Broadleaf Weeds, Grasses and sedges

Echelon 4SC herbicide will control or suppress the weeds listed in Table 3 when applied shortly after weeds have emerged. Do not exceed the application rate specified for the turf species in Table 1. Do not apply adjuvants or surfactants with post applications of Echelon unless tested on small areas prior to broadcast applications.

Weeds Controlled or Suppressed When Application Made Postemergence to Weeds

Table 3

Common Name	Scientific Name	Controlled	Suppressed
Bittercress	(<i>Cardamine spp.</i>)		X
Black medic	(<i>Medicago lupulina</i>)		X

Buttercups	(<i>Ranunculus</i> spp.)		X
Carolina geranium	(<i>Geranium carolinianum</i>)	1	
Carpeweed	(<i>Mollugo verticillata</i>)		X
Chickweed, common	(<i>Stellaria media</i>)	1	
Chickweed, mouseear	(<i>Cerastium vulgatum</i>)		X
Cinquefoil	(<i>Potentilla</i> spp.)		X
Clover	(<i>Trifolium</i> spp.)		X
Crabgrass (Large and Smooth)	(<i>Digitaria</i> spp.)	2	
Cudweed	(<i>Gnaphalium</i> spp.)		X
Dandelion	(<i>Taraxacum officinale</i>)		X
Dock, Curly	(<i>Rumex crispus</i>)		X
Evening primrose	(<i>Oenothera biennis</i>)		X
Fiddleneck	(<i>Amsinckia</i> spp.)		X
Filaree	(<i>Erodium</i> spp.)		X
Goldenrod	(<i>Solidago</i> spp.)	1	
Goosegrass	(<i>Eleusine indica</i>)	2	
Ground ivy	(<i>Glechoma hederacea</i>)	1	
Henbit	(<i>Lamium amplexicaule</i>)		X
Knotweed, prostrate	(<i>Polygonum aviculare</i>)		X
Kochia	(<i>Kochia scoparia</i>)	1	
Lambsquarters, common	(<i>Chenopodium album</i>)		X
Lawn burweed	(<i>Soliva pterosperma</i>)		X
Lespedeza, common	(<i>Lespedeza striata</i>)		X
Mallow, common	(<i>Malva neglecta</i>)		X
Nutsedge, Yellow	(<i>Cyperus esculentus</i>)	C	
Parsley piert	(<i>Alchemilla arvensis</i>)	1	
Pigweed, Redroot	(<i>Amaranthus retroflexus</i>)	1	
Pigweed, Tumble	(<i>Amaranthus albus</i>)	1	
Pineapple weed	(<i>Matricaria matricarioides</i>)		X
Plantain, buckhorn	(<i>Plantago lanceolata</i>)	1	
Puncture weed	(<i>Tribulus terrestris</i>)		X
Purslane, common	(<i>Portulaca oleracea</i>)		X
Pusley, Florida	(<i>Richardia scabra</i>)	1	
Redweed	(<i>Melochia corchonifolia</i>)		X
Rocket, London	(<i>Sisymbrium irio</i>)		X
Smartweed, Pennsylvania	(<i>Polygonum pennsylvanicum</i>)	1	
Sorrel, Red	(<i>Rumex acetosella</i>)		X
Speedwell	(<i>Veronica</i> spp.)	1	
Spurge, (annuals)	(<i>Euphorbia</i> spp.)	1	
Spurge, prostrate	(<i>Euphorbia humistrata</i>)	1	
Spurge, spotted	(<i>Euphorbia maculata</i>)	1	
Star of Bethlehem	(<i>Ornithogalum umbellatum</i>)	1	
Velvetleaf	(<i>Abutilon theophrasti</i>)		X
Violet, wild	(<i>Viola pratensis</i>)		X
Wild garlic	(<i>Allium vineale</i>)		X
Wild onion	(<i>Allium canadense</i>)		X
Woodsorrel, creeping	(<i>Oxalis corniculata</i>)		X
Woodsorrel, yellow	(<i>Oxalis stricta</i>)	1	

- Weeds are suppressed at lower label rates (<24fl.oz/acre). For optimum control apply rates of at least 24fl.oz.per acre in a single application. Do not exceed the application rate specified for the turf species in Table 1.
- Echelon controls crabgrass and goosegrass when applied postemergent to newly emerged weeds in the 1-4 leaf stage of development.

Application to Reseeded, Overseeded or Sprigged areas
 Reseeding, overseeding or sprigging of treated areas within three to twelve (3-12) months after application of this product could inhibit the establishment of desirable grasses. [See table for exact intervals from application].

Best results are obtained for reseeding or overseeding when mechanical or power seeding equipment (slit seeders) are used to give good seed to soil contact and proper soil cultivation, irrigation and fertilization practices are followed.

Overseeding Intervals after Echelon Applications
 Table 4

Total Amount of Echelon 4SC Applied Ounces Product/Acre	Interval (Months Before Overseeding)		
	North	Transition	South
8 - 12	3	3	3
18	3	3	3
24	4	4	4
36	6	5	5

Sod Production
 It is recommended that sod be established for at least six (6) months before an application of Echelon 4SC herbicide. Do not apply this product within three (3) months of harvest.

Other Use Precautions

- Do not apply to golf course putting greens or tees.
- Do not use on turgrasses other than those listed on this label.
- Do not graze or feed livestock, forage cut from areas treated with Echelon 4SC herbicide.
- Do not apply directly to landscape ornamentals or ornamental beds.
- Do not apply to areas where dichondra, colonial bentgrass, velvet bentgrass or annual bluegrass (*Poa annua*) are desirable species.
- Do not apply to creeping bentgrass if mowing height is less than 0.5 inch.
- Do not harvest treated sod before 90 days after application.
- Do not apply to newly set sod until the sod has rooted and exposed edges have grown in.
- Do not apply with adjuvants or surfactants.

Temporary turfgrass discoloration has been observed when Primo has been either tank-mixed or applied within 7 days of a Echelon 4SC application. It is recommended that Primo applications be made 7 days prior to, or after Echelon 4SC application to reduce risk of turfgrass discoloration.

ADDITIONAL USE INSTRUCTIONS

Railroad Rights-of-Way

Controls many weeds and maintains bare ground on railroad rights-of-way, including railroad yards, railroad crossings and railroad bridge abutments.

Highway, Roadside, Pipeline and Utility Rights-of-Way

Controls many weeds and maintains bare ground in highway, roadside, pipeline and utility rights-of-way. Such areas would include, but are not limited to, guardrails, road shoulders, electric utility substations, pipeline pumping stations, around electric transmission towers, around distribution line poles plus other areas where complete vegetation control is desired.

Industrial Areas, Fence Rows and Other Non-crop Sites

Controls weeds and maintains bare ground in industrial areas including production facilities, tank farms, storage areas, parking areas, lumber yards, airports, military installations, along fence rows, and in similar non-crop sites where complete vegetation control is needed.

METHOD AND RATE OF APPLICATION FOR ADDITIONAL USES

For residual control of germinating weeds in non-crop land, apply as a broadcast treatment using 24 to 36 fluid ounces (0.75 to 1.125 pounds active ingredient) per acre by ground in a minimum of 10 gallons of spray solution per acre. Applications may be made by helicopter on railroad rights-of-way only.

DO NOT apply Echelon 4SC herbicide to soils classified as sand with less than 1% Organic Matter.

Use labeled rates of burndown herbicides such as glyphosate, glyphosate-trimesium, diquat, 2,4-D, dicamba, etc. as tank mixtures with Echelon 4SC herbicide. Use recommended adjuvants for the herbicide tank mix partner. For all products used in tank mixes, refer to the specific product labels for all restrictions on tank mixing and observe all label precautions, instructions and rotational cropping restrictions.

Timing

For best results, apply Echelon 4SC herbicide alone or in combination with other herbicides for residual control of weeds in late summer, fall, or early spring to insure adequate moisture for soil activation.

Weeds Controlled

Echelon when applied postemergence at 24 to 36 fluid ounces per acre, will control the following weeds in non-cropland areas (Table 5). Use the higher labeled rates to extend length of control. Use the higher rates on sites with fine soil textures and on sites with more than 2% organic matter.

Weeds Controlled from Preemergence Application to Bare Ground Prior to Weed Seed germination

Table 5

Common Name	Scientific Name
Barnyardgrass	(<i>Echinochloa crus-galli</i>)
Bluegrass annual	(<i>Poa annua</i>)
Carpetweed	(<i>Mollugo verticillata</i>)
Carolina Geranium	<i>Geranium carolinianum</i>
Chickweed, common	(<i>Stellaria media</i>)
Chickweed, mouseear (from seed)	(<i>Cerastium vulgatum</i>)
Crabgrass (large, smooth)	(<i>Digitaria spp.</i>)
Crowfootgrass	(<i>Dactyloctenium aegyptium.</i>)
Cupgrass, Woolly	(<i>Eriochloa villosa</i>)
Foxtails, Annual	(<i>Setaria spp.</i>)
Goosegrass	(<i>Eleusine indica</i>)

Hairy Bittercress	<i>Cardamine hirsuta</i>
Henbit 2	<i>(Lamium amplexicaule)</i>
Itchgrass	<i>(Rottboellia exaltata)</i>
Knotweed, prostrate	<i>(Polygonum aviculare)</i>
Kochia	<i>(Kochia scoparia)</i>
Kyllinga, green	<i>(Kyllinga brevifolia)</i>
Kyllinga, false green	
Lambsquarters, common	<i>(Chenopodium album)</i>
Lovegrass	<i>(Eragrostis spp.)</i>
Nutsedge, yellow	<i>(Cyperus esculentus)</i>
Nutsedge, purple	<i>(Cyperus rotundus)</i>
Panicum (Texas, Fall)	<i>(Panicum spp.)</i>
Pigweed, Redroot	<i>(Amaranthus retroflexus)</i>
Purslane, Common	<i>(Portulaca oleracea)</i>
Pusley, Florida	<i>(Richardia scabra L.)</i>
Sedge, globe	<i>(Cyperus globulosus)</i>
Sedge, cylindrical	<i>(Cyperus retrorsus)</i>
Sedge, Surinam	<i>(Cyperus surinamensis)</i>
Sedge, Texas	<i>(Cyperus polystachyos)</i>
Shephardspurse	<i>(Capsella bursa-pastoris)</i>
Signalgrass, broadleaf	<i>(Brachiaria platyphylla)</i>
Speedwell	<i>(Veronica spp.)</i>
Sprangletop	<i>(Leptochola spp.)</i>
Spurge, prostrate	<i>(Euphorbia humistrata)</i>
Witchgrass	<i>(Panicum capillare L.)</i>
Woodsorrel, yellow (from Seed)	<i>(Oxalis stricta)</i>

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