



241-377

07/05/2000

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

JUL 5 2000

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

Laura L. Whatley
American Cyanamid Company
P.O. Box 400
Princeton, NJ 08543-0400

Dear Ms. Whatley:

Subject: Revised Rotational Restriction
Lightning Herbicide
EPA Registration No 241-377
Your Submission Dated June 12, 2000

The amendment referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended is acceptable provided that you:


1. Make the labeling changes listed below before you release the product for shipment bearing the amended labeling:

- The front panel states "For Use On Clearfield Corn Seed Hybrids Only". On page 13 the Precautions state that this product with soil insecticides can be used on "Pioneer imidazolinone resistant (IR) corn hybrids" and that this product with Counter CR and Thimet can be used on "imidazolinone tolerance (IT) corn hybrids". Verify that these precautions do not contradict the front panel statement.

2. Submit one (1) copy of your final printed labeling before you release the product for shipment.

A stamped copy of the labeling is enclosed for your records.

Sincerely yours,


James A. Tompkins
Product Manager (25)
Herbicide Branch
Registration Division (7505C)

Enclosure

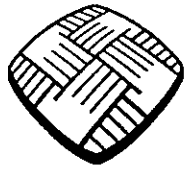
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**ACCEPTED
with COMMENTS
In EPA Letter Dated:**

JUL 5 2000

**Under the Federal Insecticide,
Fungicide, and Rodenticide Act,
as amended, for the pesticide
registered under EPA Reg. No.
241-377**



LIGHTNING

HERBICIDE

FOR USE ON CLEARFIELD® CORN SEED HYBRIDS ONLY

ACTIVE INGREDIENTS	
Imazapyr (2,4,6-triamino-4,6-dimethyl-1,3,5-triazin-7-yl) 5-(1,1-dimethyl-2-propyl-1H-imidazol-2-yl)carbamate 3:1	82.5%
Imazapyr (2,4,6-triamino-4,6-dimethyl-1,3,5-triazin-7-yl) 5-(1,1-dimethyl-2-propyl-1H-imidazol-2-yl)carbamate 3:1	17.5%
INERT INGREDIENTS	
	80.0%
TOTAL	
	100.0%

Each packet contains 0.024 pounds of imazapyr and 0.012 pounds of imazapyr as the free acid.
EPA Reg. No. 241-377 Patent No. 5,703,310 EPA Est. No. 241-PPR-002

KEEP OUT OF REACH OF CHILDREN WARNING! AVISO!

Caution: Avoid contact with skin, eyes, and clothing. A 50 ppm paraquat test is explicitly listed on details. (If you do not understand this label and someone to explain it to you in detail.)

STATEMENT OF PRACTICAL TREATMENT

IF IN EYES: Hold eyelids open and flush with a steady gentle stream of water for 15 minutes. Get medical attention.
IF ON SKIN: Wash with plenty of soap and water. Get medical attention.
IF SWALLOWED: Call a doctor for medical attention. Do not induce vomiting. Drink plenty of water. Do not take any more food or liquid until a doctor is available. Drink large quantities of water. **NOTE TO PHYSICIAN:** Probable mucosal damage may occur.
In case of an emergency, contact the U.S. Dept. of Agriculture, Pesticide Information Center, 800-851-9913, or call 1-800-873-5100.
Do not know how to complete this form for immediate use.
For more information, contact your local agricultural representative.



Net Contents: 5 x 2.56 ounce packets
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(01) 0-0043162 000105



LIFT HERE

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INBOOK™

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

WARNING!

Causes substantial but temporary eye injury. Do not get in eyes, on skin or on clothing. Harmful if swallowed or absorbed through skin.

Personal Protective Equipment (PPE):
Applicators and other handlers must wear:

- long-sleeved shirt and long pants
- waterproof gloves
- shoes plus socks
- protective eyewear.

User Safety Recommendations:

Users should:

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

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

ENVIRONMENTAL HAZARDS

DO NOT apply directly to water, or areas where surface water is present, or to intertidal areas below the mean high water mark.

DO NOT contaminate water when disposing of equipment washwaters.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

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 or reservoirs. This setback does not apply to properly capped or plugged abandoned wells and does not apply to impervious pad or properly diked 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 washwater, 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

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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.

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

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.

DIRECTIONS FOR USE

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

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

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

Observe all cautions and limitations on this label and on the labels of products used in combination with LIGHTNING. Do not use LIGHTNING other than in accordance with the instructions set forth on this label. The use of LIGHTNING not consistent with this label may result in injury to crops.

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

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.

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
- waterproof gloves
- shoes plus socks
- protective eyewear

STORAGE AND DISPOSAL

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

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

CONTAINER DISPOSAL: DO NOT reuse outer packaging. Dispose of outer packaging in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned stay out of smoke.

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DISCLAIMER

The label instructions for the use of this product reflect the opinion of experts based on research and field use. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, herbicide resistant weed populations, or the use of, or application of the product contrary to label instructions, all of which are beyond the control of American Cyanamid Company. All such risks shall be assumed by the user.

American Cyanamid Company shall not be responsible for losses or damages resulting from use of this product in any manner not set forth on this label. User assumes all risks associated with the use of this product in any manner not specifically set forth on this label.

American Cyanamid Company warrants only that the material contained herein conforms to the chemical description on the label and is reasonably fit for the use therein described when used in accordance with the directions for use, subject to the risks referred to above. **CYANAMID DOES NOT MAKE OR AUTHORIZE ANY AGENT OR REPRESENTATIVE TO MAKE ANY OTHER WARRANTIES, EXPRESS OR IMPLIED AND EXPRESSLY EXCLUDES AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

BUYER'S EXCLUSIVE REMEDY AND AMERICAN CYANAMID'S EXCLUSIVE LIABILITY, WHETHER IN CONTRACT, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, SHALL BE LIMITED TO REPAYMENT OF THE PURCHASE PRICE OF LIGHTNING. In no case shall Cyanamid or the seller be liable for consequential, special or indirect damages resulting from the use or handling of this product.

Uses with Other Products (Tank-Mixes)

If this product is used in combination with any other product except as specifically recommended in writing by American Cyanamid Company, then American Cyanamid Company shall have no liability for any loss, damage or injury arising out of its use in any such combination not so specifically recommended. If used in combination recommended by American Cyanamid Company, the liability of American Cyanamid Company shall in no manner extend to any damage, loss or injury not directly caused by the inclusion of the American Cyanamid Company product in such combination use, and in any event shall be limited to return of the amount of the purchase price of the American Cyanamid Company product.

GENERAL INFORMATION

LIGHTNING can be applied postemergence (including spike stage) on CLEARFIELD corn hybrids. Apply only on selected field corn hybrids (CLEARFIELD corn) warranted by the seed company to possess resistance/tolerance to direct application of certain imidazolinone herbicides. **DO NOT** apply LIGHTNING to corn hybrids which lack resistance/tolerance to imidazolinone herbicides. Contact your seed supplier, chemical dealer or American Cyanamid to obtain information regarding CLEARFIELD corn hybrids.

LIGHTNING kills weeds by root and/or foliar uptake and rapid translocation to the growing points. Adequate soil moisture is important for optimum LIGHTNING activity. When adequate soil moisture is present, LIGHTNING will provide residual control of susceptible germinating weeds; activity on established weeds will depend on the weed species and the location of its root system in the soil.

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Use of LIGHTNING herbicide in accordance with label directions is expected to result in normal growth of rotational crops in most situations; however, various environmental and agronomic factors make it impossible to eliminate all risks associated with the use of this product and, therefore, rotational crop injury is always possible. Under some conditions (such as heavy texture soil, high organic matter, low pH or low rainfall) LIGHTNING may cause injury to subsequent planted crops. See the ROTATIONAL CROP GUIDELINE section of this label for recommended rotation intervals to sensitive crops.

Crops growing under stressful environmental conditions can exhibit various injury symptoms which may be more pronounced if herbicides are used. Corn plants treated with LIGHTNING may exhibit yellowing on new growth. Such effects occur infrequently and are temporary. Normal growth and appearance should resume within 1 to 2 weeks.

Naturally occurring biotypes* of some of the weeds listed on this label may not be effectively controlled by this and/or other products with the ALS/AHAS enzyme inhibiting mode of action. Other herbicide with the ALS/AHAS enzyme inhibiting mode of action include the imidazolinones (e.g. PURSUIT®, SCEPTER®, etc.), the sulfonylureas (e.g. Accent®, Basis®, Classic®, Concert®, Exceed®, Permit®, Pinnacle®, etc.) the sulfonamides (e.g. Broadstrike®, etc.) and the pyrimidyl benzoates (e.g. Staple®, etc.). If naturally occurring biotypes are present in a field which are resistant to this herbicide, LIGHTNING should be tank-mixed or applied sequentially with an appropriate registered herbicide having a different mode of action to ensure control.

*A weed biotype is a naturally occurring individual within a given species that has a slightly different, but distinct genetic makeup from other plants.

Replanting: If replanting is necessary in a field previously treated with LIGHTNING, the field may be replanted only to CLEARFIELD corn. Rework the soil no deeper than the treated zone. DO NOT apply a second treatment of LIGHTNING.

MIXING INSTRUCTIONS

POSTEMERGENCE APPLICATIONS OF LIGHTNING REQUIRE THE ADDITION OF A SURFACTANT AND A LIQUID FERTILIZER SOLUTION*.

I. SURFACTANTS - cleared for application to growing crops

Use a non-ionic surfactant containing at least 80% active ingredient. Apply the surfactant at the rate of 1 quart per 100 gallons. An organo-silicone surfactant may be used in place of a non-ionic surfactant.

II. FERTILIZER

Recommended nitrogen based fertilizers include liquid fertilizers (such as 28%N, 32%N or 10-34-0) at the rate of 1-2 quarts per acre. Use the higher rate when weeds are under moisture or temperature stress. Instead of a liquid fertilizer, spray grade ammonium sulfate may be used at the rate of 2.5 pounds per acre.

Fill the spray tank one-half to three-fourths full with clean water. Add the required amount of LIGHTNING to the spray tank while agitating. After the LIGHTNING has visibly dispersed, add adjuvants and fill the remainder of the tank with water. An antifoam agent may be added if needed.

DO NOT use liquid fertilizer as a carrier for postemergence applications of LIGHTNING herbicide.

*LIGHTNING applications may be made with a non-ionic surfactant only (liquid fertilizer not required) in the Bootheel of Missouri, Tennessee, South Carolina, Louisiana, Georgia, Arkansas, Mississippi, Alabama, Florida, and North Carolina.

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SLURRY PREPARATION

LIGHTNING may be slurried prior to addition to the spray tank.

- 1) Add 1 to 2-water soluble packets per gallon of water.
- 2) Allow water soluble bags to dissolve for 3-5 minutes or until bags have ruptured.
- 3) Agitate slurry for 10 -15 minutes or until water soluble bags are completely in solution.
- 4) Transfer slurry to spray tank (begin spray tank agitation) filled half to three quarters full with clean water.

When tank-mixing LIGHTNING with recommended herbicides, add the other herbicides and other components in the following order, while agitating:

- 1) Fill spray tank 1/2 to 3/4 full with clean water.
- 2) Add LIGHTNING and thoroughly mix.
- 3) Add other aqueous solution products.
- 4) Add other soluble packet products and thoroughly mix.
- 5) Add WP (wetttable powder), DG (dispersible granule), DF (dry flowable), or LF (liquid flowable) formulations.
- 6) Add EC (emulsifiable concentrate) products.
- 7) Add surfactant to the spray tank.
- 8) Add liquid fertilizer.
- 9) While agitating, fill the remainder of the tank with water.

When LIGHTNING is used in combination with another herbicide, refer to the respective label for rates, methods of application, proper timing, weeds controlled, restrictions and precautions. Always use in accordance with the more restrictive label restrictions and precautions. No label dosages should be exceeded.

PROCEDURE FOR CLEANING SPRAY EQUIPMENT

To avoid injury to sensitive crops, spray equipment used for LIGHTNING applications must be drained and thoroughly cleaned with water before being used to apply other products.

SPRAYING INSTRUCTIONS

GROUND APPLICATIONS: Uniformly apply with properly calibrated ground equipment in 10 or more gallons of water per acre. A spray pressure of 20 to 40 psi is recommended. DO NOT apply when wind velocity is greater than 10 mph. (See SENSITIVE CROP PRECAUTIONS section on the next page for application guidelines near sensitive crops.)

To ensure thorough coverage a minimum of 10 gallons of water per acre is recommended when applying LIGHTNING herbicide to minimum till or no-till CLEARFIELD corn. Use higher gallonage for fields with dense vegetation or heavy crop residues. Flat-fan nozzle tips are recommended for postemergence applications.

Avoid overlaps when spraying.

AERIAL APPLICATIONS: Uniformly apply with properly calibrated aerial equipment in 5 or more gallons of water per acre. Addition of a non-ionic surfactant AND fertilizer solution are required for optimum weed control; apply a non-ionic surfactant at the rate of 1 quart per 100 gallons of spray mixture AND a liquid fertilizer at the rate of 1 quart per acre. (See directions under MIXING INSTRUCTIONS.)

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To avoid injury to sensitive crops from drift, aerial applicators must adhere to the following SPECIAL AERIAL USE DIRECTIONS AND PRECAUTIONS.

- Nozzle height above ground must be a maximum of 10 feet.
- Nozzles must be pointed towards the rear of the aircraft. The downward angle of the nozzle should not be greater than 20 degrees.
- To minimize wing-tip vortex roll, nozzles or spray boom must not be located any closer to end of wing or rotor than three-fourths the distance from the center of the aircraft.
- Use a maximum spray pressure of 40 psi.
- A buffer zone must be established between the area to be sprayed and sensitive crops.
- DO NOT spray when wind velocity is greater than 5 mph. Coarse sprays (larger droplets) are less likely to drift.

Applicator is responsible for any loss or damage which results from spraying LIGHTNING in a manner other than recommended in this label. In addition, applicator must follow all applicable state and local regulations and ordinances in regard to spraying.

SENSITIVE CROP PRECAUTIONS

LIGHTNING herbicide may cause injury to desirable trees and plants, particularly beans, cotton, flowers, fruit trees, grapes, ornamentals, peas, potatoes, soybeans, sugar beets, sunflowers, tobacco, tomatoes and other broadleaf plants when contacting their roots, stems or foliage. These plants are most sensitive to LIGHTNING herbicide during their development or growing stage. FOLLOW THE PRECAUTIONS LISTED BELOW WHEN USING LIGHTNING HERBICIDE.

- Do not treat areas where either possible downward movement into the soil or surface washing may cause contact of LIGHTNING herbicide with roots of desirable plants such as trees and shrubs.
- Avoid making applications when spray particles may be carried by air currents to areas where sensitive crops and plants are growing. Do not spray near sensitive plants if wind is gusty or in excess of 5 mph and moving in the direction of nearby sensitive crops. However, always make applications when there is some air movement to determine the direction and distance of possible spray drift. Leave an adequate buffer zone between area to be treated and sensitive plants. Coarse sprays are less likely to drift out of the target area than fine sprays.
- Use coarse sprays to avoid potential herbicide drift. Select nozzles which are designed to produce minimal amounts of fine spray particles such as Spraying Systems XR flat fans. A spray pressure of 20 psi and spray volume at or above 20 gpa, are recommended to reduce drift to sensitive crops.
- Agriculturally approved drift-reducing additives may be used.
- To avoid injury to desirable plants, equipment used to apply LIGHTNING herbicide should be thoroughly cleaned (see PROCEDURE FOR CLEANING SPRAY EQUIPMENT) before reusing to apply any other chemicals.

USE RATE

Apply LIGHTNING at a broadcast rate of 1.28 ounces per acre. At this broadcast rate, one water soluble bag of LIGHTNING will treat 2.0 acres of CLEARFIELD corn.

NOTE: Only one application of LIGHTNING may be made during the growing season.

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LIGHTNING HERBICIDE USE AREA

Not for use in California or New York.

APPLICATION INSTRUCTIONS

LIGHTNING is effective in controlling weeds in conservation tillage as well as in conventional production systems. Apply LIGHTNING herbicide as a postemergence treatment to CLEARFIELD corn when crop and weeds are actively growing. For optimal weed control apply LIGHTNING before weeds exceed labeled height. If the corn is greater than 20 inches tall or if the crop canopy prevents adequate weed coverage, LIGHTNING must be applied with drop nozzles, post-directed onto weeds. DO NOT apply within 45 days of harvest. More restrictive crop growth stage limitations of tank-mix partners must be followed.

A nonionic surfactant and a liquid fertilizer must be added to the spray solution for optimum weed control activity. See the ADDITIVE section under MIXING INSTRUCTIONS for specific instructions.

For maximum weed control, cultivate 7-10 days following LIGHTNING application. This timely cultivation will enhance residual weed control, especially under dry conditions.

Delay a LIGHTNING application for 48 hours from the time temperatures increase above 50°F if air temperatures reach or stay below 50°F for 10 or more hours. Unusually cool temperatures (50°F or less) reduce photosynthesis and transpiration and thus reduce the uptake and translocation (and effectiveness) of LIGHTNING herbicide in weeds.

LIGHTNING should be applied a minimum of one hour before rainfall or overhead irrigation.

SEQUENTIAL HERBICIDE COMBINATIONS WITH LIGHTNING HERBICIDE

LIGHTNING controls many grass species. However, when heavy grass pressure is anticipated, a soil application of any grass herbicide underlay (such as PROWL[®], Dual[®], Eradicane[®], Frontier[®], Harness³, Lasso³, or Surpass⁵) is recommended. LIGHTNING may also be used in sequential programs with registered burndown herbicides.

TANK-MIX HERBICIDE COMBINATIONS WITH LIGHTNING HERBICIDE

Recommended Tank-Mix Postemergence Applications of LIGHTNING are:

2,4-D*	Bicep Lite ²	Dual	Harness Extra ³	Shotgun ⁴
Atrazine	Bicep Lite II ²	Frontier	Laddock ⁶ S-12	Surpass ⁵
Barvel ^{1*}	Buctril ^{7**}	Fuetime ⁸	Lasso ³	Surpass 100 ⁵
Basagran ⁹	Buctril+atrazine**	Guardsman ⁸	Marksman ⁸	TopNotch ⁵
Bicep ²	Clarity ^{4*}	Harness ³	PROWL 3.3 EC	Tough ⁵
Bicep II ²				

* Use of crop oil concentrate or methylated seed oils in tank-mixes with LIGHTNING with 2,4-D, Barvel, Marksman, atrazine, or Clarity may result in crop injury if applied during periods of cold, wet weather or hot and/or humid weather. Under these environmental conditions the use of a nonionic surfactant is recommended.

** Do not use crop oil concentrate or methylated seed oils when Barvel, Buctril, Clarity, or Marksman is used in the tank-mix with LIGHTNING.

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Do not use LIGHTNING in combination with products containing flumetsulam unless using imidazolinone resistant (IR) corn hybrids.

LIGHTNING is active against many broadleaf and grass species. For long term weed management, use two herbicides with different modes of action to reduce the potential for weed resistance.

When LIGHTNING is used in combination with another herbicide, refer to the respective label for rates, methods of application, proper timing, weeds controlled, restrictions and precautions. Always use in accordance with the more restrictive label restrictions and precautions. No label dosages should be exceeded.

WEEDS CONTROLLED

When applied as directed at the broadcast rate of 1.28 ounces per acre, LIGHTNING herbicide will control or reduce competition from the weeds listed below.

NOTE: R = Reduced Competition

The number under Maximum Leaf Stage indicates the MAXIMUM number of leaves at which weeds should be sprayed postemergence.

BROADLEAF WEEDS

Weeds Controlled	POSTEMERGENCE	
	Maximum Leaf Stage	Size (inches)
Alligator weed	4	1-3
Anoda, spurred	2	1-2
Artichoke, Jerusalem	8	6-10
Buckwheat, wild	4	1-3
Buffalobur	4	1-3
Bristly starbur	2	1-2
Carpetweed	4	1-3
Cocklebur, common	8	1-8
Field Bindweed	R	1-3
Jimsonweed	4	1-3
Knotweed	4	1-3
Kochia (non-ALS resistant)	4	1-3
Lambsquarters, common	4	1-3
Marshelder	4	1-3
Milkweed, honeyvine	4	1-3

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BROADLEAF WEEDS (con't.)

Weeds Controlled	POSTEMERGENCE	
	Maximum Leaf Stage	Size (Inches)
Morningglory		
entireleaf	2	1-2
ivyleaf	4	1-3
pitted	2	1-2
smallflower	4	1-3
tall	4	1-3
Mustard sp.	4	1-3
Nightshade		
black	4	1-3
Eastern black	4	1-3
hairy	4	1-3
Pigweed		
palmer	4	1-3
prostrate	8	1-8
redroot	8	1-8
smooth	8	1-8
spiny	8	1-8
Ragweed,		
common	R	1-3
giant	4	1-3
Sage, barnyard	R	1-3
Sicklepod*	4	1-3
Sida, prickly	4	1-3
Smartweed,		
ladysthumb	4	1-3
Pennsylvania	4	1-3
Spurge		
prostrate	4	1-3
spotted	4	1-3

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BROADLEAF WEEDS (con't.)

Weeds Controlled	POSTEMERGENCE	
	Maximum Leaf Stage	Size (Inches)
Sunflower	4	1-3
Velvetleaf	4	1-3
Venice Mallow	4	1-3
Thistle, Canada	R	1-3

DO NOT count cotyledon leaves when determining weed stage of growth.
 *Additional applications of other broadleaf herbicides may be necessary to control subsequent flushes of sickelpod.

GRASS WEEDS AND SEDGES

Weeds Controlled	POSTEMERGENCE	
	Maximum Leaf Stage	Size (Inches)
Barnyardgrass	3	1-3
Crabgrass,		
large	3	1-3
smooth	3	1-3
Cupgrass, woolly	3	1-3
Foxtail,		
giant	6	1-6
green	3	1-3
yellow	3	1-3
Goosegrass	3	1-3
Johnsongrass,		
seedling	6	1-8
rhizome	R	1-8
Millet, wild proso	3	1-3
Nutsedge		
purple	R	1-3
yellow	R	1-3
Panicum, fall	3	1-3
Quackgrass	3	1-3

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GRASS WEEDS AND SEDGES (con't.)

Weeds Controlled	POSTEMERGENCE	
	Maximum Leaf Stage	Size (Inches)
Red rice	3	1-3
Sandbur, field	3	2
Shattercane	6	1-8
Signalgrass, broadleaf	4	1-8
Sorghum almum	6	1-3
Volunteer Corn (non-IMI-CORN)	8	1-12
Wild Oat	6	1-8
Witchgrass	3	1-3

ROTATIONAL CROPS

The following rotational crops may be planted after applying LIGHTNING herbicide at the recommended rate in corn. Planting earlier than the recommended interval may result in crop injury: See page 13 for exceptions to the rotational crops guideline.

1. Anytime:
CLEARFIELD corn hybrids
2. Four months after LIGHTNING application:
Rye Wheat
3. Eight and one-half months after LIGHTNING application:
Field Corn Field corn grown for seed*
4. Nine months
Soybeans
5. Nine and one-half months after LIGHTNING application:
Alfalfa Edible beans and peas
Barley Peanuts Tobacco
6. Eighteen months after LIGHTNING application:
Cotton Oats Safflower Sunflowers
Lettuce Popcorn Sorghum Sweet corn
7. Twenty six months after LIGHTNING application:
Potatoes
8. Forty months after LIGHTNING application***:

All crops not listed elsewhere in this ROTATIONAL CROP GUIDELINE

*** Following forty months after a LIGHTNING application, and before any crop not listed in the ROTATIONAL CROP GUIDELINE, a successful field bioassay must be completed. The field bioassay consists of a test strip of the

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intended rotational crop planted across the previously treated field and grown to maturity. The test strip should include low areas and knolls, and include variations in soil such as type and pH. If no crop injury is evident in the test strip rotational crop may be planted the following year.

If the field is limed to adjust pH prior to planting rotational crops not listed in the ROTATIONAL CROP GUIDELINE, apply the lime at least 12 months prior to planting the rotational crop.

EXCEPTIONS TO ROTATIONAL CROP GUIDELINE

If corn is furrow irrigated, till the soil prior to planting winter wheat or barley. The beds should be broken up and the soil mixed with tillage equipment set to cut 4-6 inches deep.

***Corn Inbred Lines:** Corn inbred seed lines may be planted the year following an application of LIGHTNING. Due to the proprietary nature of seed production, American Cyanamid has not been given access to the inbred data. Growers are directed to contact the seed company for information and recommendations regarding the planting of corn grown for seed in fields treated with LIGHTNING the previous year. Since growing conditions, environmental conditions, and grower practices are beyond the control of American Cyanamid Company, ALL RISKS AND CONSEQUENCES ASSOCIATED WITH PLANTING SEED CORN INBREDS INTO FIELDS TREATED PREVIOUSLY WITH LIGHTNING SHALL BE ASSUMED BY THE USER.

Use of LIGHTNING herbicide in accordance with label directions is expected to result in normal growth of rotational crops in most situations; however, various environmental and agronomic factors make it impossible to eliminate all risks associated with the use of this product and, therefore, rotational crop injury is always possible.

PRECAUTIONS

In the event of a crop loss due to weather, CLEARFIELD corn seed hybrids can be replanted following an application of LIGHTNING herbicide. If LIGHTNING was tank-mixed with other herbicides, the label restrictions for these herbicides must also be followed.

There should be an interval of at least 45 days between an application of LIGHTNING and corn harvest (silage, fodder, or grain). DO NOT graze or feed treated corn forage, silage, fodder, or grain for at least 45 days after an application of LIGHTNING.

Only rotational crops harvested at maturity may be used for feed or food.

American Cyanamid recommends products containing imazethapyr (CONTOUR®, PURSUIT, PURSUIT PLUS EC, RESOLVE®) NOT be applied to CLEARFIELD corn the same year as LIGHTNING or injury to follow crops may occur.

All soil insecticides, including labeled banded or in-furrow applications, may be used in combination with Pioneer imidazolinone resistant (IR) corn hybrids and LIGHTNING.

Cyanamid recommends that COUNTER® CR and THIMET® in banded applications may be used in combination with LIGHTNING on imidazolinone tolerant (IT) corn hybrids. DO NOT use COUNTER® 15G systemic insecticide-nematicide, when LIGHTNING will be applied to imidazolinone tolerant corn hybrids. American Cyanamid has not tested all hybrids in which the imidazolinone tolerance trait is claimed and cannot be responsible for factors which are beyond its control, such as growing conditions, environmental conditions, grower practices and the specific genetics of each hybrid tolerance to herbicide and insecticide applications.

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

For additional information regarding the use of LIGHTNING herbicide, call telephone no. (800) 942-0500.

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® Trademarks of American Cyanamid Company

¹Accent, Basis, Classic, Concert, Pinnacle, and Staple are Trademarks of E.I. DuPont de Nemours and Company, Inc.

²Bicep, Bicep II, Bicep Lite, Bicep Lite II, Dual, Exceed and Tough are Trademarks of Novartis Corporation.

³Hamess, Hamess Extra, Lasso, and Permit are Trademarks of Monsanto Agricultural Products Company.

⁴Broadstrike and Stinger are Trademarks of DowElanco Company.

⁵Eradicane, Fulltime, Surpass, Surpass 100, and Topnotch are Trademarks of Zeneca Agrochemicals.

⁶Baflvel, Basagran, Clarity, Frontier, Guardsman, Laddok S-12 and Marksman are Trademarks of BASF Corporation.

⁷Buctril is a Trademark of Rhone-Poulenc Company.

⁸Shotgun is a Trademark of UAP.

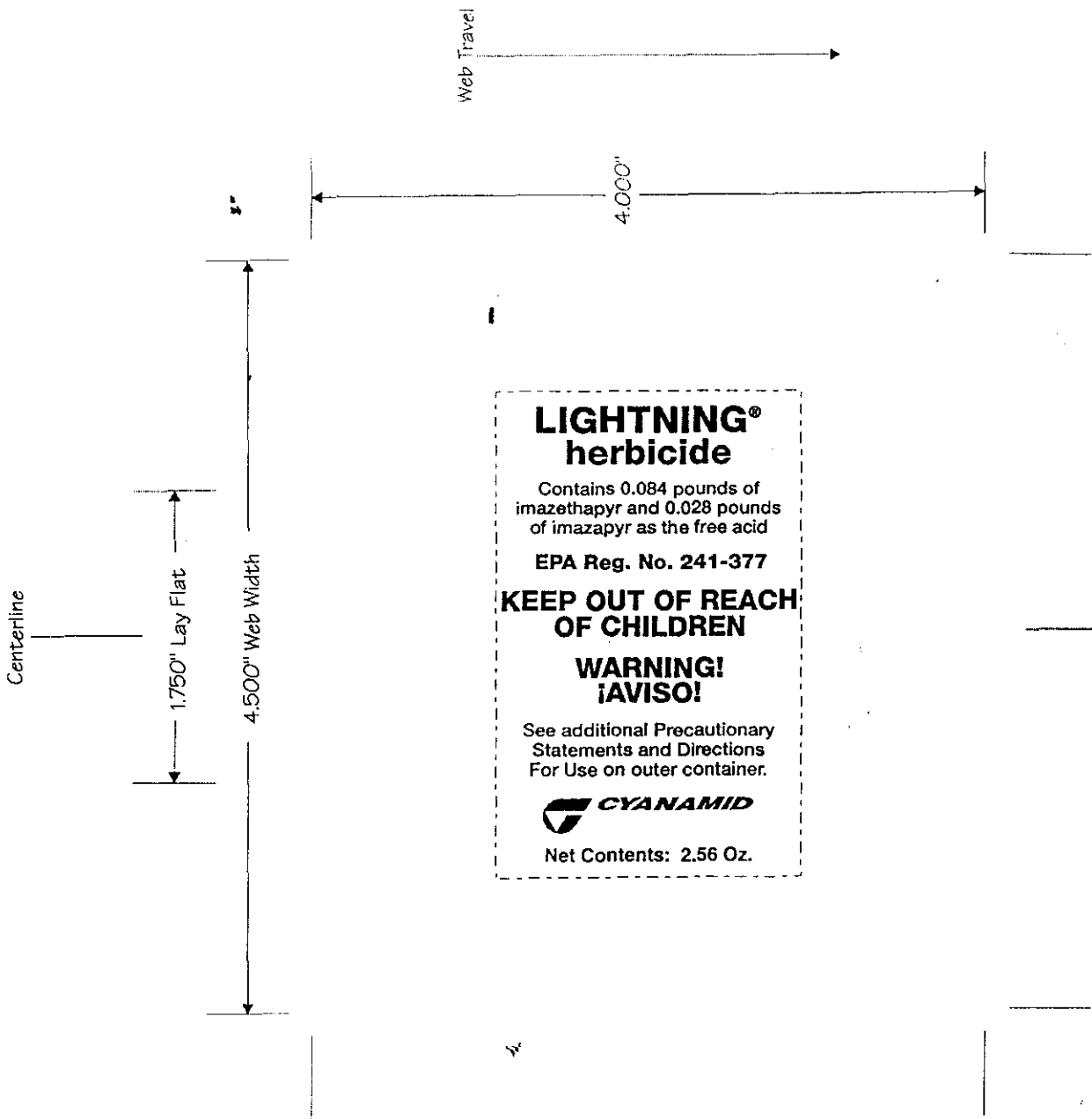


American Cyanamid Company

Global Agricultural Products Division
Crop Protection Products Department
One Campus Drive, Parsippany, NJ 07054 ©1999

Extended Text™ INBOOK™ has the following Patents: U.K. & Europe 0256672, U.S.A. 4933043, Canada 1294433.

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LIGHTNING[®]
herbicide


Contains 0.084 pounds of imazethapyr and 0.028 pounds of imazapyr as the free acid

EPA Reg. No. 241-377

KEEP OUT OF REACH OF CHILDREN

WARNING!
¡AVISO!

See additional Precautionary Statements and Directions For Use on outer container.

 **CYANAMID**

Net Contents: 2.56 Oz.

PRINTING INFORMATION:
 ALL COPY AND LINE ART PRINTS AQUA-DESTRUCT
 BLUE E 56589 (SUN CHEMICAL).
 DASHED RULE INDICATES LIVE AREA - DO NOT PRINT.



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LIGHTNING

HERBICIDE

KEEP OUT OF REACH OF CHILDREN WARNING!/AVISO!

FOR USE ON CLEARFIELD® CORN SEED HYBRIDS ONLY

ACTIVE INGREDIENTS:

Imazethapyr (s)-2-(4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl)-5-ethyl-3-pyridinecarboxylic acid	52.5%
Imazapyr 2-(4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl)-3-pyridinecarboxylic acid	17.5%
INERT INGREDIENTS	30.0%
TOTAL	100.0%

LIGHTNING in a water soluble bag.
(1 bag contains 0.084 pounds of Imazethapyr and 0.028 pounds of Imazapyr as the free acid)
Patent No. 4,798,619

EPA Reg. No. 241-377 EPA Est. No. 241-PR-002

STATEMENT OF PRACTICAL TREATMENT - IF IN EYES: Hold eyelids open and flush with a steady, gentle stream of water for 15 minutes. Get medical attention. • **IF ON SKIN:** Wash with plenty of soap and water. Get medical attention. • **IF SWALLOWED:** Call a doctor or get medical attention. Do not induce vomiting. Drink promptly a large quantity of milk, egg whites, gelatin solution, or if these are not available, drink large quantities of water. Avoid alcohol. • **NOTE TO PHYSICIAN:** Probable mucosal damage may contraindicate the use of gastric lavage. **PRECAUTIONARY STATEMENTS - HAZARDS TO HUMANS AND DOMESTIC ANIMALS - WARNING!** Causes substantial but temporary eye injury. Do not get in eyes, on skin or on clothing. Harmful if swallowed or absorbed through skin. • **ENVIRONMENTAL HAZARDS - DO NOT** contaminate water when disposing of equipment washwaters. This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. 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 or reservoirs. This setback does not apply to properly capped or plugged abandoned wells and does not apply to impervious pad or properly diked 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 washwater, 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. **DO NOT** apply this product through any type of irrigation system. 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. **DIRECTIONS FOR USE -** It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation. This labeling must be in the possession of the user at the time of pesticide application. Observe all cautions and limitations on this label and on the labels of products used in combination with LIGHTNING. Do not use LIGHTNING other than in accordance with the instructions set forth on this label. The use of LIGHTNING not consistent with this label may result in injury to crops. **DO NOT** apply this product through any type of irrigation system. See inside booklet for complete Directions For Use. **STORAGE AND DISPOSAL - PROHIBITIONS:** **DO NOT** contaminate water, food or feed by storage or disposal. • **PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. • **CONTAINER DISPOSAL:** **DO NOT** reuse outer packaging. Dispose of outer packaging 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 booklet for Disclaimer.

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

In case of an emergency endangering life or property involving this product, call collect, day or night, area code 973-683-3100. Do not remove package from container except for immediate use.

AGRICULTURAL USE REQUIREMENTS - Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to booklet under "Agricultural Use Requirements" in the Directions For Use section for information about this standard.

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Net Contents: 5 x 2.56 ounce packets **Trademarks, American Cyanamid Company 23800-01 10/99