

PLEASE NOTE

This image contains more than one label approved for this product on this date.

241-377

1/29/2002

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

JAN 29 2002

Ms. Rebecca Johnston
BASF Corporation
P.O. Box 400
Princeton, NJ 08543-0400

Subject: Lightning Herbicide
EPA Registration No. 241-377
Your amended labeling submitted October 8, 2001

Dear Ms. Johnston:

The amended labeling referred to above is acceptable provided you adhere to the following conditions:

1. Make the following changes to your labeling:

- a. In the "Storage and Disposal" section, add pesticide storage directions.
- b. Change the last sentence of the "Crop Tolerance" section to the following (to delete "guideline" and "recommended"):

See ROTATIONAL CROP section of this label for rotation intervals to sensitive crops.

- c. In the "Soil Insecticide Information" section, change "All soil insecticides" to "All soil insecticides registered for use on corn".
- d. In the "General Tank Mixing Information" section, change the last sentence of the first paragraph to the following (to change "should" to "may"):

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No label dosages may be exceeded.

e. In the ROTATIONAL CROPS GUIDELINE section, delete "GUIDELINE". In addition, change the last two sentences of the first paragraph to the following:

The following rotational crops may be planted after applying Lightening at the specified rate in corn. Rotational crops must not be planted earlier than the specified intervals; this will help avoid crop injury.

f. In the ROTATIONAL CROPS section, in the table, add "12 months - corn inbred lines" and change the heading "Exceptions to Rotational Crop Guideline" to "Additional Rotational Crop Information".

2. Submit and/or cite all data required for registration/reregistration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for reregistration of your product under FIFRA section 4.

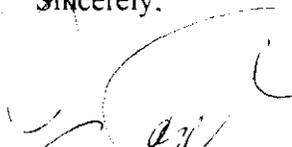
3. Submit two copies of final labeling of this supplemental labeling for this product.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

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

If you have any questions about this letter, you may call Tobi Colvin-Snyder at 703-305-7801.

Sincerely,



Jim Tompkins
Product Manager (25)
Herbicide Branch
Registration Division (7505C)

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BASF

ACCEPTED
with **COMMENTS**
In EPA Letter Dated

JAN 29 2002

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 hybrids only.

Active ingredient:

Imazethapyr (+)-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 is packaged in a water soluble bag.

(1 bag contains 0.084 pounds of imazethapyr and 0.028 pounds of imazapyr as the free acid)

EPA Registration Number: 241-377 EPA Establishment Number: 241-PR-002

KEEP OUT OF REACH OF CHILDREN.

WARNING!/AVISO!

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

See inside booklet for complete Precautionary Statements, Statement of Practical Treatment, Directions For Use, and Conditions of Sale and Warranty.

Net contents: 5 X 2.56 ounce packets.

BASF Corporation
P.O. Box 13528, Research Triangle Park, NC 27709

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FIRST AID	
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 first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for 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 swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by a poison control center or doctor • Do not give anything by mouth to an unconscious person.
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 BASF Corporation for emergency medical treatment information: 1-800-832-HELP (4357)	
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.

Personal Protective Equipment (PPE)

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

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as butyl rubber ≥ 14 mils, or natural rubber ≥ 14 mils, or neoprene rubber ≥ 14 mils, or nitrile rubber ≥ 14 mils
- Shoes plus socks
- Protective eye wear

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.

In Case of Emergency

In case of large-scale spillage regarding this product, call:

CHEMTREC 800-424-9300
 BASF Corporation 800-832-HELP

In case of medical emergency regarding this product, call:

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

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.

Environmental Hazards

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

DO NOT contaminate water when disposing of equipment washwaters.

Groundwater Advisory and Proper Handling Instructions

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 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

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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 rinsate.

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 user's possession during application.

Observe all cautions and limitations on this label and on the labels of products used in combination with **Lightning**® herbicide. 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.

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
- Chemical-resistant gloves, such as butyl rubber ≥ 14 mils, or natural rubber ≥ 14 mils, or neoprene rubber ≥ 14 mils, or nitrile rubber ≥ 14 mils
- Shoes plus socks
- Protective eye wear

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.

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 BASF Corporation (BASF). All such risks shall be assumed by the user. BASF shall not be responsible for losses or damages

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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

BASF 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. **BASF 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 BASF'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 BASF 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 BASF Corporation, then BASF Corporation 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 BASF Corporation, the liability of BASF Corporation shall in no manner extend to any damage, loss or injury not directly caused by the inclusion of the BASF Corporation product in such combination use, and in any event shall be limited to return of the amount of the purchase price of the BASF Corporation product.

I. General Information

Apply Lightning® herbicide 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 that lack resistance/tolerance to imidazolinone herbicides. Contact your seed supplier, chemical dealer or BASF to obtain information regarding CLEARFIELD corn hybrids.

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 in Table 1.

NOTE: R = Reduced Competition

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

DO NOT count cotyledon leaves when determining weed stage of growth.

Table 1. General Weed List

Broadleaf Weeds Controlled	POSTEMERGENCE	
	Maximum Leaf Stage	Size (inches)
Alligator weed	4	1-3
Anoda, spurred	2	1-2
Archoke, 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
Bindweed, field	R	1-3
Jimsonweed	4	1-3
Knottweed	4	1-3
Kochia (non-ALS resistant)	4	1-3
Lambquarters, common	4	1-3
Marshelder	4	1-3
Milkweed, honeyvine	4	1-3
Morningglory		
entireleaf	2	1-2
ivyleaf	4	1-3
pitted	2	1-2
smallflower	4	1-3
tail	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		
ladythumb	4	1-3
Pennsylvania	4	1-3
Spurge		
prostrate	4	1-3
spotted	4	1-3
Sunflower	4	1-3
Velvetleaf	4	1-3
Venice Mallow	4	1-3
Thistle, Canada	R	1-3

*Additional applications of other broadleaf herbicides may be necessary to control subsequent flushes of sicklepod

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Table 1. General Weed List (Cont):

Annual Grass and Sedge Weeds Controlled	POSTEMERGENCE	
	Maximum Leaf Stage	Size (inches)
Barryardgrass	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	8-16
Millet, wild proso	3	1-3
Nutsedge		
purple	R	1-3
yellow	R	1-3
Panicum, fall	3	1-3
Quackgrass	3	1-3
Red rice	3	1-3
Ryegrass, Italian	3	1-6
Sandbur, field	3	2
Shattercane	6	1-8
Signalgrass, broadleaf	4	1-8
Sorghum alatum	6	1-3
Volunteer Corn (non-CLEARFIELD corn)	8	1-12
Wild Oat	6	1-8
Witchgrass	3	1-3

Mode of Action

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.

Herbicide Resistance

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 herbicides with the ALS/AHAS enzyme inhibiting mode of action include the imidazolinones (e.g. **PURSUIT**[®], **SCEPTER**[®], **RAPTOR**[®], etc.), the sulfonylureas (e.g. **Accent**[®], **Classic**[®], **Permit**[®], **Steadfast**[®], **Spirit**[®], etc.) the sulfonamides (e.g. **Python**[®], 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. **Lightning** is active against many broadleaf and grass weed species. For long term weed management, use two herbicides with different modes of action to reduce the potential for weed resistance.

Crop Tolerance

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. 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.

Soil Insecticide Information:

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

BASF 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. BASF 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.

Cultivation

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

Cleaning Spray Equipment

To avoid injury to sensitive crops, drain and clean application equipment thoroughly using a strong detergent or commercial sprayer cleaner according to the manufacturer's directions and then triple rinse the equipment before and after applying **Lightning**.

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II. Application Instructions

Lightning® herbicide is effective in controlling annual 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.

LIGHTNING Application Use Area, Rate and Timing:

- Not for use in California
- In New York - Not for Sale or Use on Long Island
- 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.
- **Lightning** can be applied postemergence (including spike stage) on **CLEARFIELD** corn hybrids.
- **Lightning** must be applied with drop nozzles (i.e. post-directed onto weeds) under the following conditions: if the corn is greater than 20 inches tall or corn has 6 or more leaf collars (V6), whichever is the more restrictive, or if the crop canopy prevents adequate weed coverage.

Delaying a **Lightning** application for 48 hours from the time temperatures increase above 50°F, (i.e., after air temperatures have remained below 50° F for 10 or more hours) will improve weed control and reduce the potential for crop response. 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.

Ground Application Methods and Equipment:

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 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 Application Methods and Equipment:

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 gallon of spray solution OR a crop oil concentrate at the rate of 1.25 gallon per 100 gallon of spray solution, AND a liquid fertilizer at the rate of 1.25 gallon per 100 gallon of spray solution

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 that 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 cotton, flowers, fruit trees, grapes, ornamentals, potatoes, 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 10 mph and moving in the direction of nearby sensitive crops. However, always make applications when there is some air movement to

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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 CLEANING SPRAY EQUIPMENT) before reusing to apply any other chemicals.

III. Additives

Ground, postemergence applications of **Lightning** herbicide require the addition of an ADJUVANT AND a NITROGEN FERTILIZER SOURCE, OR a BASIC BLEND*

I. ADJUVANTS:

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.

OR

Crop Oil Concentrate - The use of a petroleum-based or vegetable seed-based oil concentrate or methylated seed oil with **Lightning** herbicide is permitted according to supplemental labeling. Refer to supplemental labeling for use directions and conditions. The supplemental labeling must be in possession of the user at the time of pesticide application.

AND

II. NITROGEN FERTILIZER SOURCE:

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.

*Alternatively, the use proprietary "basic blend" products that contain both a non-ionic surfactant and a nitrogen source that provide equivalent spray additive activity to those additives mentioned above, may be used with **Lightning** herbicide. Other premixes containing a surfactant and a nitrogen source may be used as long as performance and rate guidelines for surfactant and nitrogen amounts are met.

IV. Mixing Order

DO NOT use liquid fertilizer as a carrier (use water only) for postemergence applications of **Lightning** herbicide

WATER:

1. Fill the spray tank 1/2 to 3/4 full with clean water.
2. Add the required amount of **Lightning** to the spray tank while agitating.
3. After the **Lightning** has visibly dispersed, add spray additives and fill the remainder of the tank with water. An antifoam agent may be added if needed.

SLURRY PREPARATION:

Lightning may be slurred 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 1/2 to 3/4 full with clean water.

TANK-MIX PREPARATION:

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 (wettable 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.

V. General Tank Mixing Information

When **Lightning** is used in combination with another herbicide, refer to the respective label for rates, spray additives, 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.

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VI. General Restrictions and Limitations

- Only one application of **Lightning*** may be made during the growing season.
- 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**. 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.
- DO NOT apply **Lightning** within 45 days of 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**.
- More restrictive crop growth stage, limitations of tank-mix partners must be followed.
- **ROTATIONAL CROPS GUIDELINE:** 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. 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:

Time after LIGHTNING Application	Crop(s) to be Grown
Anytime	CLEARFIELD corn hybrids
Four months	Rye, Wheat
Eight and one-half months	Field Corn, Field corn grown for seed*
Nine months	Soybeans
Nine and one-half months	Alfalfa, Barley*, Edible beans and peas, Peanuts, Tobacco
Eighteen months	Cotton**, Lettuce, Oats, Popcorn, Safflower, Sorghum, Sunflowers, and Sweet corn
Twenty six months	Potatoes
Forty months***	All crops not listed elsewhere in ROTATIONAL CROPS

*Rotational interval for barley is 18 months in the following states: ID, MT, OR (county of Malheur), and WY (counties of Bighorn, Cambell, Crook, Fremont, Hot Springs, Johnson, Park, Sheridan, Teton, Washakie, Weston)

**In the following states (AL, AR, FL, GA, KY, LA, MO, MS, NC, SC, TN, VA) refer to supplemental labeling for reduced rotational cropping intervals.

***Following forty months after a **Lightning** herbicide 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 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 not crop injury is evident in the test strip rotational crop may be planted the following year. Only rotational crops harvested at maturity may be used for feed or food. BASF recommends that products containing imazethapyr (**PURSUIT™**, **PURSUIT™ Plus EC**) should not be applied to **CLEARFIELD** corn the same year as **Lightning** or injury to follow crops may occur. 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, BASF 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 BASF, **ALL RISKS AND CONSEQUENCES ASSOCIATED WITH PLANTING SEED CORN INBREDS INTO FIELDS TREATED PREVIOUSLY WITH LIGHTNING SHALL BE ASSUMED BY THE USER.**



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VII. Crop-Specific Information

CLEARFIELD™ Corn
 Lightning® can be applied postemergence (including spike stage) on CLEARFIELD corn hybrids.

Tank Mixes

Recommended Tank-Mix Postemergence Applications with Lightning are:

- CLARITY**
- DISTINCT**
- FRONTIER
- GUARDSMAN*
- GUARDSMAN MAX*
- MARKSMAN**
- OUTLOOK
- PROWL

- 2,4-D*
- Atrazine*
- Barver**
- Barvel K + Atrazine*
- Bicep II Magnum*
- Bicep Lite II Magnum*
- Buctril*
- Buctril+atrazine*
- Callisto*
- Dual II Magnum
- FulTime™
- Harness*
- Harness* Xtra
- Shotgun**
- Sterling™
- Sterling Plus™
- Stinger*
- Surpass
- TopNotch*
- Tough*

*Use of crop oil concentrate or methylated seed oils in tank-mixes with Lightning with 2,4-D, atrazine, Barvel, Barvel K + Atrazine, CLARITY, DISTINCT, MARKSMAN, Shotgun, Sterling, or Sterling Plus 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 Lightning in combination with products containing flumetsulam, thifensulfuron or rimsulfuron (e.g. Accent Gold®, Basis®, Basis Gold®, Horner®, Python®, Steadfast®).

Sequential Herbicide Combinations and Uses

Lightning controls many grass species. However, when heavy grass pressure is anticipated, a soil surface application of any grass herbicide underlay (such as PROWL®, FRONTIER®, OUTLOOK®, Dual II Magnum®, Doubleplay®, Harness® or Surpass®) is recommended. Lightning may also be used in sequential programs with registered burn-down herbicides.

Table 2.

Pests Listed in this label:	
Common Name	Scientific Name
Aligatorweed	<i>Alekanthera proterodes</i>
Anoda, spurred	<i>Anoda cristata</i>
Artichoke, Jerusalem	<i>Helianthus tuberosus</i>
Barnyardgrass	<i>Echinochloa crus-galli</i>
Buckwheat, wild	<i>Polygonum convolvulus</i>
Buffalobur	<i>Solanum rostratum</i>
Bristly starbur	<i>Acanthospermum hispidum</i>
Carpetweed	<i>Mollugo verticillata</i>
Crabgrass, large	<i>Digitaria longiflora</i>
Crabgrass, smooth	<i>Digitaria ischaemum</i>
Cocklebur, Common	<i>Xanthium pensylvanicum</i>
Cupgrass, woolly	<i>Eriochloa villosa</i>
Bindweed, field	<i>Convolvulus arvensis</i>
Foxtail, giant	<i>Setaria faberi</i>
Foxtail, green	<i>Setaria viridis</i>
Foxtail, yellow	<i>Setaria litescens</i>
Goosegrass	<i>Elysiue indica</i>
Jimsonweed	<i>Datura stramonium</i>
Johnsongrass, (seedling, rhizome)	<i>Sorghum halepense</i>
Knotweed, prostrate	<i>Polygonum aviculare</i>
Kochia	<i>Kochia scoparia</i>
Lambsquarters, Common	<i>Chenopodium album</i>
Mallow, Venice	<i>Hibiscus trionum</i>
Marshelder	<i>iva xanthifolia</i>
Milkweed, honeyvine	<i>Ampelatum albidus</i>
Millet, wild proso	<i>Panicum miliaceum</i>
Morningglory, Entireleaf	<i>Ipomoea hederacea var. integruscula</i>
Morningglory, heartleaf	<i>Ipomoea hederifolia</i>
Morningglory, smallflower	<i>Jacquemonia tamnifolia</i>
Morningglory, small white (pitted)	<i>Ipomoea lacunosa</i>
Morningglory, tall (common)	<i>Ipomoea purpurea</i>
Mustard	<i>Brassica sp.</i>
Nightshade, Eastern Black	<i>Solanum pycnanthum</i>
Nightshade, black	<i>Solanum nigrum</i>
Nightshade, hairy	<i>Solanum sarachoides</i>
Nutsedge, purple	<i>Cyperus rotundus</i>
Nutsedge, yellow	<i>Cyperus esculentus</i>
Panicum, fall	<i>Panicum dichotomiflorum</i>
Pigweed, palmer	<i>Amaranthus palmeri</i>
Pigweed, prostrate	<i>Amaranthus blitoides</i>
Pigweed, redroot	<i>Amaranthus retroflexus</i>
Pigweed, smooth	<i>Amaranthus hybridus</i>
Pigweed, spiny	<i>Amaranthus albus</i>
Quackgrass	<i>Agropyron repens</i>
Ragweed, common	<i>Ambrosia artemisiifolia</i>
Ragweed, giant	<i>Ambrosia trifida</i>
Red rice	<i>Oryza sativa</i>
Ryegrass, Italian	<i>Lolium multiflorum</i>
Sage, barnyard	<i>Salvia, sp.</i>
Sandbur, field	<i>Cenchrus incertus</i>

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Table 2. (Cont);

Pests Listed in this label (cont.):	
Common Name	Scientific Name
Shattercane	<i>Sorghum bicolor</i>
Sicklepod	<i>Cassia obtusifolia</i>
Sida, prickly	<i>Sida spinosa</i>
Signalgrass, broadleaf	<i>Bracharia platyphylla</i>
Smartweed, Pennsylvania	<i>Polygonum pennsylvanicum</i>
Smartweed, ladysthumb	<i>Polygonum persicaria</i>
Sorghum alnum	<i>Sorghum alnum</i>
Spurge, prostrate	<i>Euphorbia humistrata</i>
Spurge, spotted	<i>Euphorbia maculata</i>
Sunflower, volunteer	<i>Helianthus sp.</i>
Sunflower, wild (common)	<i>Helianthus annuus</i>
Thistle, Canada	<i>Cirsium arvense</i>
Velvetleaf	<i>Abutilon theophrasti</i>
Wild oats	<i>Avena fatua</i>
Witchgrass	<i>Panicum capillare</i>

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Crops
This product can be used on the following crops: Clearfield™ Corn Hybrids
Look inside for complete Restrictions and Limitations and Application Instructions.

Conditions of Sale and Warranty
<p>The Directions For Use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and 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, or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of BASF CORPORATION ("BASF") or the Seller. All such risks shall be assumed by the Buyer. BASF warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the Directions For Use, subject to the inherent risks, referred to above. BASF MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. IN NO CASE SHALL BASF OR THE SELLER BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. BASF and the Seller offer this product, and the Buyer and User accept it, subject to the foregoing Conditions of Sale and Warranty which may be varied only by agreement in writing signed by a duly authorized representative of BASF.</p>
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BASF Corporation
Agricultural Products
P.O. Box 13528
Research Triangle Park, NC 27709



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NEXT

LABEL

241-377

1/29/2002

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

JAN 29 2002

Ms. Rebecca Johnston
BASF Corporation
P.O. Box 400
Princeton, NJ 08543-0400

Subject: Lightening Herbicide
EPA Registration No. 241-377
Your supplemental labeling submitted October 4, 2001

Dear Ms. Johnston:

The supplemental labeling referred to above is acceptable provided you adhere to the following conditions:

1. Make the following changes to your labeling:
 - a. In the second paragraph at the top of the first page, change "LIGHTENING LEAFLET LABEL" to "LIGHTENING LEAFLET LABEL (MAIN PRODUCT LABEL)".
 - b. In the DIRECTIONS FOR USE section, change "This labeling must..." to "This labeling and the Lightening leaflet label must..."
 - c. In the DIRECTIONS FOR USE section, change "No label dosages should be exceeded" to "No label dosages may be exceeded".
2. Submit and/or cite all data required for registration/reregistration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for reregistration of your product under FIFRA section 4.

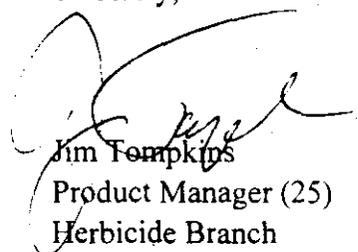
3. Submit two copies of final labeling of this supplemental labeling for this product.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

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

If you have any questions about this letter, you may call Tobi Colvin-Snyder at 703-305-7801.

Sincerely,



Jim Tompkins
Product Manager (25)
Herbicide Branch
Registration Division (7505C)



Supplemental Labeling

EPA Reg. No. 241-377

**FOR USE ONLY ON CLEARFIELD® CORN HYBRIDS
DIRECTIONS FOR THE USE OF LIGHTNING® HERBICIDE IN COMBINATION WITH METHYLATED
SEED OILS (CLEARED FOR APPLICATION TO GROWING CROPS) AND CROP OILS AS
ADJUVANTS.**

**OBSERVE ALL PRECAUTIONARY STATEMENTS ON THE LIGHTNING LEAFLET LABEL BEFORE USING.
SEE THE LIGHTNING LEAFLET LABEL FOR PRECAUTIONS, WORKER PROTECTION STANDARD
REQUIREMENTS, APPLICATION INFORMATION, USES WITH OTHER PRODUCTS AND ROTATIONAL
CROP RESTRICTIONS.**

GENERAL INFORMATION

Apply LIGHTNING herbicide only on selected field corn hybrids (CLEARFIELD corn) warranted by the seed company to possess resistance/tolerance to direct application of LIGHTNING.

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.

When LIGHTNING is used in combination with another herbicide, refer to the respective label for rates, spray additives, 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.

USE OF ADJUVANTS WITH LIGHTNING

GROUND APPLICATIONS OF LIGHTNING REQUIRE THE ADDITION OF AN ADJUVANT **AND** A NITROGEN FERTILIZER SOURCE.

I. ADJUVANTS

SURFACTANTS: Use a non-ionic surfactant containing at least 80% active ingredient. Apply the surfactant at the rate of 1 quart per 100 gallons (0.25% vol./vol.). An organo-silicone surfactant may be used in place of a non-ionic surfactant.

OR

**ACCEPTED
with COMMENTS
In EPA Letter Dated**

JAN 29 2002

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

241-377

(continued on back)

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CROP OIL CONCENTRATE: Instead of a surfactant, a petroleum or vegetable seed based oil concentrate or methylated seed oil may be beneficial under the conditions listed below.

1. Hot arid environmental conditions when weeds may be under stress and less susceptible to herbicide applications.
2. For improved control in heavy infestations of weeds such as woolly cupgrass, large crabgrass and field sandbur or when approaching maximum labeled heights.

Apply crop oil concentrates or methylated seed oils at the rate of 1 gallon per 100 gallons (1% vol./vol.)

AND

II. NITROGEN FERTILIZER SOURCE

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.

Use of crop oil concentrate or methylated seed oils in tankmixes of LIGHTNING® with 2,4D, Marksman®, atrazine, Clarity®, Distinct®, Shotgun®, Sterling™, Sterling Plus™, Banvel®, Banvel® K + atrazine 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.

Refer to Lightning leaflet label for all mixing instructions.

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Shotgun is a registered trademark of Platte Chemical Company

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