

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

SEP ' 7 1993

OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

J. H. (Jack) Cain
E. I. DU PONT DE NEMOURS AND CO., INC.
Barley Mill Plaza, Walker's Mill
Wilmington, DE 19880

SUBJECT: Label Amendment Submission of 05/14/93 in Compliance with PR Notice 93-7
EPA Reg. No. 352-525
DUPONT PINNACLE HERBICIDE

Dear Registrant:

The labeling cited above and submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable subject to the comments listed below.

Based on your certification, the Agency has accepted only those changes to your labeling which are necessary to comply with PR Notices 93-7 and 93-11, which reflect the WPS labeling requirements of 40 CFR part 156, subpart K. Any other labeling changes submitted in connection with this amendment application and not directly related to compliance with PR Notice 93-7 or 93-11 have neither been reviewed not accepted by the Agency. If you wish to make any such changes, you must submit a separate amendment application proposing them. If your product registration is currently suspended, acceptance of this labeling amendment does not affect the suspension in any way.

A copy of your proposed labeling stamped "Accepted with comments" is attached. Make any required changes described in the attached and send three copies of final labeling as soon as it is available to:

Document Processing Desk (FIN-LABEL)
Office of Pesticide Programs (H-7504C)
U.S. Environmental Protection Agency
401 M Street SW
Washington, DC 20460-0001

Hand or courier deliveries of final labels may be made to:

Document Processing Desk (FIN-LABEL) Room 266A Crystal Mall 2 1921 Jefferson Davis Highway Arlington, VA 22202

Please correct the typographical errors circled on the draft before printing final labeling.

In your final labeling the "Agricultural Use Requirements" text" must be contained in a clearly separate box. This box may be set apart by a line, by another graphical device, by a different color background, or in any other way that clearly distinguishes it from surrounding text.

Sincerely,

James Tompkins, Deputy Chief Registration Support Branch Registration Division (H7505W) E. I. DU PONT DE NEMOURS AND CO, INC. DUPONT PINNACLE HERBICIDE 352-525 05/14/93

User Safety Recommendations must either be placed in a box or printed on the label in a contrasting color from surrounding text.

There is a typographical error(s) in the User Safety Recommendations section.

Statement of PRActicAl TREETMENT Gould be move And placed before PPE.

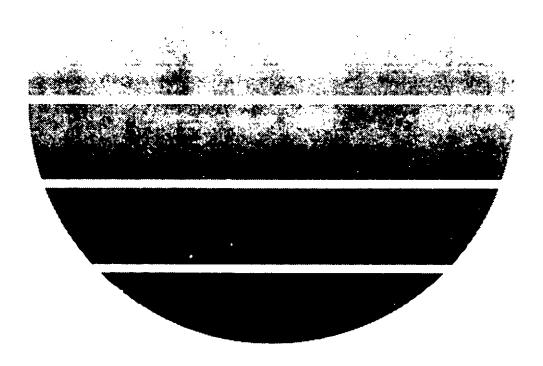
BEST AVAILABLE COPY



Pinnacle®

HERBICIDE





"...... A GROWING PARTNERSHIP WITH NATURE"

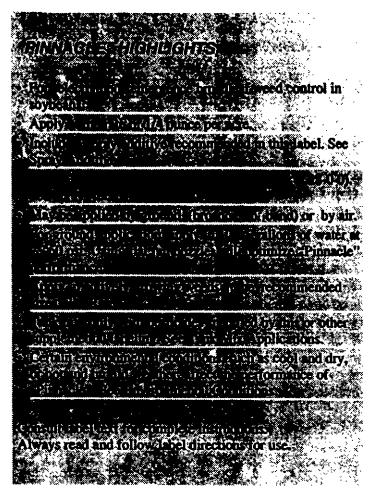


TABLE OF CONTENTS

Precautionary Statements1
Application Information
When to Apply
Application Equipment
Environmental Conditions and Biological Activity4
Cultivation 5
Crop Rotation 5
Sprayer Preparation and Cleanup 5
Spray Drift5
Important Precautions5
Storage and Disposal6
Notice of Warranty 6

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PINNACLE® HERBICIDE

Dry flowable

For Use on Soybeans Only

For selective postemergence weed control in soybeans.

This product is a water-dispersible granule containing 25% active ingredient by weight.

For use in the states of Delaware, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Michigan, Minnesota, Missouri, Nebraska, New Jersey, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, South Dakota, Texas (West of Highway 83 only), Wisconsin and Virginia.

Active Ingredient	By Weight
Methyl 3-[[[(4-methoxy-6-methyl-1,3,5-	
triazin-2-yl)amino]carbonyl]amino]	
sulfonyl]-2-thiophenecarboxylate	25.0%
Inert Ingredients	75.0%
Total	100.0%

EPA Reg. No. 352-525 U.S. Patents 4,547,215, 4,481,029 and 4,394,506

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ACCEPTED
with COMMENTS
in EPA Letter Dated

SEP ! 7 1993

Under the Federal Insecticide, Fundicide, and Redestiside And an amended, for the posticide registered under EPA Reg. No. 352 - 52 C

KEEP OUT OF REACH OF CHILDREN

CAUTIONLY

PRECAUTIONARY STATEMENTS

HAZARDS:TO HUMANS

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PERSONAL PROJECTIVE

Applicator sand otherstandler vigation.
Long-sleevesture indiong-pants
Waterproof Ploves
Shoes plus socks
Follow manufacturer's instruction so

Color op him comer sustained by so released Americantin (REPOR position) in an established American (Report of the Color o

USER SAFETY RECOMMENDATIONS

USERS SHOULD: Wash hands before eating drafting. Shearing sum, tising tribacco or using subjections.

STATEMENT OF PRACTICALS

If in eyes

Unth ever with plenty of water discussions and second control of the control of t

Wash with plenty of soap and water

For medical emergencies involving this product scall collings (1300-44) (3637) and the collings of the colling

ENVIRONMENTAL HAZARDS

only httply directly to water, only areas where surfaces where is present or to interioral areas below the mean high water mark.

Us not contaminate water when disposing of equipment washwater. Do not apply where when conditions favor runoff.

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 in your State responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

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

Do 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.





APPLICATION INFORMATION

Du Pont "Pinnacle" Herbicide is a convenient dispersible granule formulation which readily dissolves in water.

Roto

Apply "Pinnacle" at a rate of 1/4 ounce per acre for selective possessing ence broadless weed control.

When to Apply

"Pinnacle" performs best when applied to small weeds a few weeks after planting.

Timing to Crop Stage

Pannage spay be applied so soybeans any time after the different friedliste has expanded fully.

• Apply no later than 60 days before harvest.

Timing to Weeds

- Apply "Pinnacle" when weeds are young and actively growing (after the first true leaves have expanded, but before the weeds exceed the size indicated in the table below).
- Applications made to weeds that are in the cotyledon stage, larger than the size indicated, or to weeds under stress may result in unsatisfactory control.

When applied as directed, "Pinnacle" will control the following weeds:

Height(Inches) at Application

Weeds Controlled

Annual Smartwoods 2 - 6"

Lambequarters 2 - 4"

Pigweed

Rough(redroot) 2 - 12°

Waterhoup species 2 - 8"

Other species 2 - 8"

Velvetleaf 2 - 6"

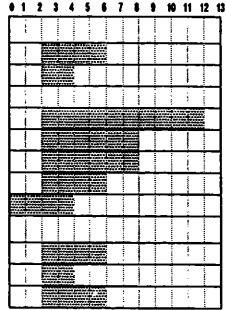
Wild Mestard up to 4" in dia.

Weeds Suppressed*

Cocklebur 2 - 6"

Jimsonwood 2 - 4"

Wild Sunflower 2 - 6"



^{*}Weed suppression is a visual reduction in weed competition (reduced population, size, and/or vigor) as compared to an untreated area. Degree of control can be increased by treating weeds when actively growing and not under stress.

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Spray Additives

Applications of "Pinnacle" must include a nonionic surfactant or crop oil soocentrate, and an ammonibate pitrogen fertilizer. For solditional information refer to the DuPont bulletin "Approved Adjuvants for use with DuPont Row Crop and Cereall Herbicides" for a list of approved adjuvants and suggested use rates.

Nonionic Surfactant

- Apply at the rate of 1 to 2 pts per 100 gal of spray solution (0.125%-0.25% v/v concentration of formulated product). Surfactants must contain at least 50% of the formulated product as actual nonionic surfactant. Avoid products that do not accurately define their ingredients on the product label.
- Using the higher rate of nonionic surfactant, particularly under hot, humid conditions, may result in temporary crop injury.
- Use adjuvants that contain only EPA-exempt ingredients (CFR 40 180.1001).
- Products that combine animonium fertilizers with surfactants or crop oils must meet the minimum surfactant/crop oil concentrate requirements AND the equivalent ammonium based nitrogen tertilizer requirements.
- · Do Not Use Dash'.

Crop Oil Concentrate

Under dry conditions or during cool weather, a crop oil concentrate at 4 pt/100 gal of spray solution (0.5% v/v) may be used in place of a nonionic surfactant to enhance weed control.

- Use a petroleum-based crop oil concentrate with at least
 4% emulsifiers surfactant and 80% oil.
- The use of crop oil concentrate may result in temporary crop injury.

Ammonium Nitrogen Fertilizer

An ammonium nitrogen fertilizer is required in addition to a surfactant or a crop oil concentrate.

- Use a high-duality liquid introgen fertilizer such as 1887 22-0-0 at a raile of 4-8 points per acre, or 1034-0 at a rate 1405-4 pints per acre.
- Alternatively, a high-quality, sprayable grade of ammonium sulfate (21-0-0) may be used at a rate of 2-4 pounds per acre.
- Use the lower rate for spray volumes less than 15 gallons per acre.

Mixing Instructions

- 1. Measure out the proper amount of "Pinnacle" to apply 1/4 ounce per acre.
- 2. Fill the tank 1/4 to 1/3 full of water.
- 3. While agitating, add the required number of ounces of "Pinnacle".
- 4. The "Pinnacle" should dissolve completely within few minutes. Continue adequate agitation.
- 5. "Pinnacle" should be thoroughly mixed with water in the spray tank before adding any other material (in order, companion herbicide, surfactant, crop oil concentrate, and nitrogen fertilizer). As the tank is filling and after the "Pinnacle" has dissolved, add the needed tank mix

- products such as Du Pont's Assure Il Herbicide and the required spray adjuvants.
- Apply "Pinnacle" spray preparation within 24 hours of mixing to avoid product degradation.
- 7. If the mixture has settled, thoroughly reagitate before using.

Tank Mix Applications

Do not tank mix "Pinnacle" with any other pesticide or spray adjuvant except as specified on this or other supplemental labeling.

"Pinnacle" plus Postemergence Grass Herbicides

"Pinnacle" may be tank mixed with postenergence grass herbicides such as "Assure" II herbicide: Do not sankinix with Poast Plus', a.

Under certain conditions, "Pinnacle" may reduce the activity of the postemergent grass herbicide. The broadleaf activity of "Pinnacle" will not be affected. Refer to the postemergent grass herbicide label for specific use information and precautions.

The amount of "Assure" II to be used in a tank mix with "Pinnacle" will be determined by the grasses present. When applied as directed, a tank mix of "Pinnacle" and "Assure" II will control the following grasses:

"Pinnacle" + 5 oz of "Assure" II per acre

Grass	Size (Height) inches
volunteer corn	6 - 18
shattercane	6 - 12
seedling job songrass	2 - 8
"Pinnacle" + 7 oz of "Assu	re"II per acre
Grass	Size (Height) inches
giant foxtail	2 - 8
wild proso millet	2 - 6
"Pinnacle" + 9 oz of "Assu	re"II per acre
Grass	Size (Height) inches
fall panicum	2-6
green foxtail	2 - 4
bristly foxtail	2-4
field sandbur	2-6
volunteer cereals	2-6
"Pinnacle" + 10 oz of "Ass	ure"II per acre
Grass	Size (Height) inches

Tankmix Adjuvants

rhizome johnsongrass

Include a nonionic surfactant with the tank mix of "Pinnacle" and post grass herbicides such as "Assure" II.

 Surfactant rate (concentration) should be 1-2 pints per 100 gallons of spray solution (0.125%-0.25% v/v concentration).

10 - 24

- Use of a higher rate of nonionic surfactant, particularly under hot, humid conditions, may result in temporary crop injury.
- Do not use "Dash" or crop oil concentrate when tank mixing "Pinnacle" with posternergencegrass herbicides.

"Rinnacle" plus Basagran'

"Pinnacle" may be tank mixed with "Basagran" Herbicide at the rate of 1/4 oz "Pinnacle" plus 1 pint "Basagran" per acre for control of these weeds in addition to those listed as controlled by Pinnacle" alone:

Height (inches)	
2-4	
2-6	
2	
2-4	

Applications of "Pinnacle" plus "Basagrin" must include a gnonionic surfactant or crop oil concentrate and an ammountmentrogen fertilizer. See "Spriy Additiver" section.

"Pinnacle" and Organophosphate Insecticides

Do not tank mix "Pinnacle" with organophosphate insecticides, or apply "Pinnacle" within 14 days before or after an application of an organophosphate insecticide, as severe crop injury may occur.

"Pinnacle" Sequential Treatments

Pinnacle may be used as a sequential treatment to control newly emerged weeds following a soil application (preemerge, preplant, or preplant incorporated) of Pursuit or imazethapyr-containing products.

- Sequential applications of "Pinnacle" following postemergent "Pursuit" treatments are not recommended because:
 - Crop injury from sequential postemergence applications
 of "Pinnacle" following "Pursuit" is greater than from the
 use of either product applied alone. The first application
 interferes with the soybean plant's ability to metabolize
 the second herbicide treatment. Sequential applications
 may result in severe crop injury.
 - Any weeds not controlled by the "Pursuit" application will be stressed at the time of the sequential treatment.
 This will result in unsatisfactory weed control, particularly for stress sensitive weeds such as lambsquarters.
 - Weeds that have recovered from a "Pursuit" application
 will typically be larger than labeled size by the time
 soybeans may be safely treated with a "Pinnacle" application. This will result in unsatisfactory weed control.

Even though not recommended for sequential application, a minimum interval of at least 14 days between applications of "Pinnacle" following "Pursuit" is advised to reduce the potential for crop injury and unsatisfactory weed control. The soybeans should be free from stress (herbicide or environmental) and actively growing. Weeds should be free from stress and not exceed the labeled size (height) at the time of "Pinnacle" application.

APPLICATION EQUIPMENT

Many crops are highly sensitive to "Pinnacle".

All direct or indirect contact (such as spray drift) with crops other than soybeans should be avoided.

Ground Application (See also Spray Drift)

Broadcast Application

- Use 10-25 gallons of water per acre.
- Use flat fan pozzles at 25-60 psi.
- Do not use flood, hollow cone, rain drop, whirl chamber, or controlled droplet applicator (CDA) type nozzles.
 Unacceptable crop injury, excessive spray drift, or poor weed control may result.
- For proper spray coverage, adjust the boom and nozzle height according to the specifications listed by the nozzle manufacturer.

Band Application

- For band application, use proportionately less spray mixture.
- To avoid crop injury, carefully calibrate the band applicator not to exceed the labeled rate.
- Carefully follow the manufacturer's instructions for nozzle types (flat fan nozzles preferred), nozzle orientation, distance of the nozzles from the crop and weeds, spray volumes, calibration, and spray pressure.
- For additional information on row banders, see
 Du Pont's bulletin, "Application Accuracy Row Banders."

Aerial Application (See also Spray Drift)

- Use nozzle types and arrangements that will provide for optimum spray distribution and maximum coverage at 5 to 10 GPA.
- Do not apply during a temperature inversion condition, when winds are gusty, or when other conditions will favor poor coverage and/or off target spray movement.
- Use a minimum of 5 gallons of water per acre.

ENVIRONMENTAL CONDITIONS AND BIOLOGICAL ACTIVITY

"Pinnacle" provides best postemergence results when applied to young, actively growing weeds. Degree of control and duration of effect depend on: application rate, weed spectrum, weed size, growing conditions at and following time of treatment, soil moisture, precipitation, previous herbicide injury and spray adjuvants. Some weeds, such as lambsquarters, are more affected by stress than others. Delay application until stress passes and weeds start to grow again. Treating weeds under stress or large weeds may result in only partial control. Conditions that are conductive to healthy, actively growing plants optimize the performance of "Pinnacle".

- If rain is expected within 1 hour, do not apply "Pinnacle", or weed control may be decreased.
- Applications made during or immediately following periods of abnormally cold weather for soybeans may result in less than satisfactory weed control.
- Poor weed control or crop injury may result from applications made to plants under stress from:
 - · abnormal hot or cold weather,
 - growing conditions such as drought or water-saturated soil,
 - · soil nutrient deficiencies such as iron chlorosis.
 - · disease.
 - · injury from cultivation,
 - · nematode, insect, or prior herbicide injury.

Delay application until stress passes and weeds and soybeans resume growth. Severe stress from conditions immediately following application may also result in crop injury or poor weed control.

 Applications during periods of hot and humid weather increase the risk of crop injury.

Wilting, temporary leaf yellowing, reddened veins, and/or growth retardation of soybeans may follow application of "Pinnacle". The growth retardation is generally in the form of shortened internode spacing. These effects will generally be most evident 5-7 days after application. The soybeans will recover quickly under favorable growing conditions.

"Pinnacle" rapidly inhibits the growth of susceptible weeds, reducing weed competition hours after application. Leaves turn yellow 5-7 days after postemergence application, followed by death of the weed's growing point in 7-21 days. Suppressed weeds may remain green but stunted and noncompetitive.

CULTIVATION

A timely cultivation may be necessary to control suppressed weeds, weeds that were beyond the maximum size at the time of application, or weeds that emerge after an application of "Pinnacle".

- Do not cultivate before, during, or within 7 days after the application.
- Cultivation may decrease weed control by pruning roots and placing the weed inder stress.
- The best time to cultivate is approximately 14 days after application.

CROP ROTATION

Any crop may be planted 45 days after the application of "Pinnacle".

SPRAYER PREPARATION AND CLEANUP

It is important that spray equipment is clean and free of previous pesticide deposits before using "Pinnacle", and then properly cleaned out following application. Clean all application equipment before applying "Pinnacle". Follow the cleanup procedures specified on the label of the product previously sprayed. If no cleanup procedure is provided, use the procedure that follows. Immediately following applications of "Pinnacle", thoroughly clean all mixing and spray equipment to avoid applications to crops other than soybeans.

Notes

 When cleaning spray equipment before applying "Pinnacle", read and follow label directions for proper rinsate disposal of the product previously sprayed.

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- A steam cleaning of aerial spray tanks is recommended to dislodge any visible pesticide deposits.
- When spraying or mixing equipment will be used over an extended period to apply multiple loads of "Pinnacle", partially fill the tank with fresh water at the end of each day of spraying, flush the boom and hoses, and allow to sit overnight.

Cleanup Procedure

- 1. Drain the tank and thoroughly hose down the interior surfaces. Flush the tank, hoses, and boom with clean water for a minimum of 5 minutes.
- 2. Partially fill the tank with clean water and add one gallon of household ammonia* (containing 3% active) for every 100 gallons of water. Finish filling the tank with water, then flush the cleaning solution through the hoses, boom, and nozzles. Add more water to completely fill the tank and allow to agitate/recirculate for at least 15 minutes. Again, flush the hoses, boom, and nozzles with the cleaning solution, then drain the tank.
- 3. Repeat Step 2.
- 4. Remove the nozzles and screens and clean separately in a bucket containing the cleaning agent and water.
- 5. Thoroughly rinse the tank with clean water for a minimum of 5 minutes, flushing the water through the hoses and boom.
- * Equivalent amounts of an alternate strength ammonia solution may be used, or a tank cleaner recommended in the DuPont bulletin "Sulfonylurea Herbicides. A Guide to Equipment Cleanout."

SPRAY DRIFT

Do not allow spray from either ground or aerial equipment to drift onto adjacent crops or land, as injury to other plants may occur. The minimization of pesticide drift is the responsibility of the applicate.. When spraying adjacent to crops other than soybeans, minimize the squay drift potential by following these practices:

- Stop spraying if wind speed becomes excessive.
 Spray drift can occur at wind speeds less than 10 MPH.
 Do not spray if sensitive crops are downwind. Do not spray if winds are gusty.
- High temperatures, drought, and low relative humidity increase the possibility of spray drift. Regardless of wind speed, extreme caution must be used when these conditions are present and sensitive crops or plants are nearby.
- Do not apply when a temperature inversion exists. An inversion is characterized by low air movement and an increase in air temperature with an increase in altitude. In humid regions, a fog or mist may form. An inversion may be detected by producing a smoke column and checking for a layering effect. Smoke-producing devices on aircraft are recommended. If not sure whether inversion conditions are present, consult with local weather services before making an application.

- 1. Use large-droplet size sprays to minimize drift. Do not use hollow-cone nozzles on ground equipment. Do not use nozzles that produce very small droplets, such as airblast-type nozzles. For ground applications, nozzles should be oriented at an angle between straight down and straight back. For aerial applications, orient nozzles straight back along the windstream. If using flood-type nozzles on aircraft, orient the nozzles so spray is produced in direction of the airstream.
- 2. Increase volume of spray mix per acre (for example, 10 GPA by air, 25 GPA by ground) by using higher-five-rate nozzles.
- 3. Reduce pressure (PSI). Do not exceed 60 psi when applying "Pinnacle" (Vehicle speed must also be reduced to maintain the proper application rate per acre.). Consult manufacturers' catalogs for details on correct calibration.
- 4. Apply as close to target plants as possible while still maintaining a good spray pattern.

IMPORTANT PRECAUTIONS

- "Pinnacle" Herbicide should be used only in accordance with recommendations on this label or in separately published Du Pont recommendations.
- Injury to or loss of desirable trees or vegetation may result from failure to observe the following:
 - Do not apply or drain or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where "Pinnacle" may be washed or moved into contact with their roots.
 - Do not use on lawns, walks, driveways, tennis courts or similar areas.
 - Prevent drift of spray to desirable plants.
- Do not contaminate any body of water.
- Thoroughly clean application equipment immediately after use. (Refer to Sprayer Preparation and Cleanup section of this label.)
- Do not graze or feed forage, hay or straw 'rom treated areas to livestock.
- Do not apply this product through any type of irrigation system.
- Du Pont will not be responsible for losses or damages resulting from the use of this product in any manner not specifically recommended by Du Pont.

STORAGE AND DISPOSAL

Storage: Store product only in original container, away from other pesticides, fertilizer, food or feed.

Product Disposal: Do not contaminate water, food or reed by storage or disposal. Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal: Triple rinse (or equivalent), then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Notice to Buyer: Purchase of this material does not confer any rights under patents of countries outside of the United States.

NOTICE OF WARRANTY

Du Pont warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for purposes stated on such label only when used in accordance with directions under normal use conditions. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Du Pont. In no case shall Du Pont be liable for consequential, special or indirect damages resulting from the use or handling of this product. All such risks shall be assumed by the buyer. DU PONT MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

- 1, Registered Trademark of BASF AG
- 2, Registered Trademark of American Cyanamid Co. AG 7631 9023 2/1/93