

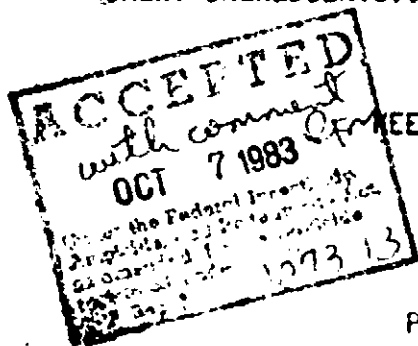
Zoriat[®]

80WP HERBICIDE

FOR CONTROL OF GRASS AND BROADLEAF WEEDS IN COTTON AND SOYBEANS

ACTIVE INGREDIENT:

norflurazon [4-chloro-5-(methlamino)-2-(alpha,
alpha, alpha-trifluoro-m-tolyl)-3(2H)-pyridazinone]... 80%
INERT INGREDIENTS:..... 20%
100%



KEEP OUT OF REACH OF CHILDREN

CAUTION

PRECAUTIONARY STATEMENTS

Environmental Hazards: Do not apply directly to any body of water. Do not apply when weather conditions favor runoff or drift from treated areas. Do not contaminate water by cleaning of equipment or disposal of wastes.

NOTICE: Sandoz, Inc. makes no warranty, expressed or implied, including the warranties of merchantability and/or fitness for any particular purpose concerning this material, except those which are contained on this label.

LOCATION OF USE

For use in cotton and soybeans in the states of Alabama, Arkansas, Illinois, North Florida, Georgia, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia.

BEST DOCUMENT AVAILABLE

NET 5 POUNDS

EPA Reg. No. 11273-13
EPA Est. No.

SANDOZ, Inc., Crop Protection
490 Camino Del Rio S. San Diego, California 92108

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WEEDS CONTROLLED

Zorial 80 WP Herbicide at recommended rates is effective for:

A. Controlling the following weeds in cotton or soybeans:

Barnyardgrass	Carpetweed
Crabgrass	Florida Pusley
Foxtail	Pennsylvania Smartweed
Goosegrass	Pigweeds
Signalgrass	Prickly Sida
Panicum spp.	Purslane
Johnsongrass (seedling)	Sicklepod
	Spotted Spurge
	Spurred Anoda (cottonweed)
	Velvetleaf

B. Suppressing the following weeds in cotton or soybeans:

Bermudagrass	Cocklebur
Johnsongrass (rhizome)	Common Ragweed
Nutsedge (yellow and purple)	Hemp Sesbania
	Kochia
	Lanceleaf Sage (mintweed)
	Morningglory
	Russian Thistle
	Other Smartweeds
	Venice Mallow

DIRECTIONS FOR USE

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

GENERAL INFORMATION

Zorial 80WP is a herbicide for control of certain grasses and broadleaf weeds in cotton and soybeans. Apply Zorial before weeds emerge. Zorial can be applied preplant incorporated, preemergence surface, or as a split application in areas with 40 inches or more annual rainfall. In areas with less than 40 inches rainfall, apply as a preplant incorporated or split application only.

The soil surface should be free of clods and existing weeds prior to application.

If replanting of cotton or soybeans is necessary, a light reworking of the topsoil will retain the herbicidal activity of Zorial.

Peanuts can be planted as a replacement crop 30 days after Zorial application. Prior to planting, a light reworking of the topsoil is recommended to remove existing plant material and to retain herbicidal activity.

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Do not graze treated cotton fields with livestock or feed treated cotton forage to livestock. Cover crops planted after harvest should be plowed under and not grazed or harvested. To minimize injury to small grain cover crops, they should be broadcast planted rather than drilled.

Quantity of Zorial applied in any one year must not exceed the broadcast rate in pounds per acre for a given soil type.

For one year following Zorial application, treated acreage may only be rotated to cotton, soybeans, and peanuts.

CROP SAFETY: If the cotton or soybean plant is stressed during early development, application of Zorial at the label rate may result in temporary bleaching or chlorosis of the leaves from which the plant will recover.

MIXING INSTRUCTIONS

Clean and calibrate the sprayer. Pre-mix the proper amount of Zorial 80WP with a small amount of water. Add this to the spray tank already filled with 3/4 of the required volume of the water. Maintain agitation while filling and spraying. If a by-pass line is used, discharge at the bottom of the tank to minimize foaming.

Do not allow Zorial 80WP spray mixture to remain in the spray tank overnight because settling could occur and resuspension would be difficult.

Tank Mixes: Always predetermine the compatibility of labelled tank mixes by mixing small proportional quantities in advance.

Products should be added to the spray tank in the following order:

1. Wettable powders and water dispersable granules. These should be premixed in a small amount of water. Allow them to disperse before other products are added. The order of addition is not important.
 2. Flowable liquids.
 3. Emulsifiable concentrates.
 4. Surfactants
- BEST DOG

Begin adding materials after the spray tank is 3/4 full. Continue agitation during the addition of all the materials and while filling and spraying.

APPLICATION DIRECTIONS

Ground Application: Apply the recommended rate of Zorial in 10-20 gallons of water per acre. Apply accurately with a fixed boom sprayer. Equip sprayer with 8002 to 8006 fan-jet nozzle tips or equivalent for broadcast application. Use 8002E to 8006E nozzle tip or equivalent for band applications. Use screen size 50 mesh or larger.

Aerial Application: Apply the recommended rate of Zorial in 5 or more gallons of water per acre. To minimize drift, use Zorial with a drift control agent such as HalcoTrol® and Ortho-Trol®. Do not apply during periods of gusty winds or winds in excess of 5 mph. Aerial spray equipment, flying speed and flying height should be carefully adjusted to provide a uniform application to the soil surface. Use markers to avoid overlapping and possible crop injury.

Preplant incorporated application (PPI):

Apply Zorial at the recommended rate from 30 days to just prior to planting. In West Texas and Southwest Oklahoma, Zorial may be applied up to 60 days prior to planting. Incorporate not deeper than 2-3 inches with commonly used equipment. Incorporation should occur within one week after application.

Preemergence surface application (PRE): Apply Zorial at the recommended rate at the time of planting and preemergence to weeds.

Split application - THE ZORIAL SPLIT™: Apply Zorial preplant incorporated, as indicated above, at one half the recommended rate. Apply the other half preemergence surface as recommended above.

SOYBEAN INFORMATION

Do not use in soybeans in West Texas or Southwest Oklahoma. Do not use when the soil type is sand, loamy sand, or sandy loam. Do not use the PPI treatment in soybeans unless as part of the split application treatment. Soybeans should be planted to a depth of 1-2 inches and soil firmly packed above and around the seed bed.

Broadcast rates in pounds of Zorial 80WP per acre:

SOIL TYPE	PRE	Split	
		ppi	pre
loam, silty loam, silt, sandy clay loam, sandy clay	1.9	.95	.95
clay loam, silty clay loam, silty clay, clay	2.5	1.25	1.25

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ZORIAL 80WP COMBINATIONS IN SOYBEANS

Zorial 80WP plus Sencor® or Lexone® Tank Mix

This combination is recommended for improved control of cocklebur, morningglory, hemp sesbania, common ragweed and Venice mallow.

Apply a tank mix of Zorial plus Sencor or Lexone preemergence surface at the rates per acre (broadcast) recommended in the following table. These rates represent 1/2 the normal Zorial rate and 1/2 to 3/4 the normal metribuzin rate. Apply using 10-20 gallons of water per acre.

Soil Type	Zorial 80WP	Less than 2% Organic Matter	2-4% Organic Matter
		Sencor or Lexone 50WP*	Sencor or Lexone 50WP*
Medium	0.95 lb.	0.375-0.56 lb.	0.50-0.75 lb.
Fine	1.25 lb.	0.50-0.75 lb.	0.50-0.75 lb.
Mississippi Delta only	1.25 lb.	0.75-1.125 lb.	0.75-1.125 lb.

*When using Sencor 4 or Lexone 4F, substitute pints for pounds (1 pint equals 1 pound).
When using Sencor DF or Lexone DF, multiply pounds 50WP by 0.67.

Refer to the Zorial, Sencor or Lexone labels for further directions and precautions.

#400-75
Zoriat 80WP plus Dyanap® overlay

This combination is recommended for improved control of cocklebur, morningglory and spurge.

Apply half the recommended rate of Zoriat ppi as directed for the Zoriat Split. Apply 6 qts. of Dyanap per acre as a preemergence overlay as recommended on its label. Carefully observe precautions on both labels.

Zoriat 80WP plus DNA herbicides (Treflan®, Prowl®, Basalin®)

The combination of Zoriat 80WP with a dinitroaniline (DNA) herbicide will control a broader spectrum of weeds than either product used alone. Apply and incorporate from 1/2 to the full rate of the DNA herbicide as directed on its label. Follow this by applying the recommended rate of Zoriat 80WP preemergence surface as directed on its label. Or apply and incorporate the half rate of Zoriat and 1/2 to the full rate of the DNA herbicide as a tank mix, and apply the remaining half rate of Zoriat preemergence surface as directed for the Zoriat Split. Carefully observe the precautions on the product labels.

NOTE: Zoriat 80WP is not compatible with Treflan M.I.F. In addition, Zoriat 80WP may not always be compatible with other formulations of DNA herbicides. Always predetermine tank mix compatibility by mixing small proportional quantities in a quart jar or other small container. If after vigorous shaking there are large flakes, gel, or sludge, or other signs of incompatibility, do not spray the combination. Always follow the order of addition given in the mixing instructions section of this label.

Zoriat 80WP Tank Mixes with Lasso®, Dual®, Amiben®, Lorox®, Surflan® or Premerge® 3

Use 1/2 the rate of Zoriat 80WP recommended on its label and 1/2 to 3/4 the rate of Lasso, Dual, Amiben, Lorox, Surflan or Premerge 3 recommended on those labels. Apply preemergence surface in at least the minimum amount of water specified on the label of the combination partner.

Before applying any of these tank mixes, read and carefully observe the cautionary statements and all other information appearing on the product labels.

Zoriat 80WP plus Postemergence Soybean Herbicides

Treatment with Zoriat 80WP may be followed by application of postemergence herbicides, including Basagran®, Fusilade® and Poast®, for control of escaped weeds in soybeans.

COTTON INFORMATION

Broadcast rates in pounds of Zoriat 80WP per acre:

SOIL TYPE	PPI	PRE	Split	
			ppi	pre
✓ sand, loamy sand, sandy loam	1.25	1.25	.625	.625
loam, silty loam, silt, sandy clay loam, sandy clay	1.9	1.9	.95	.95
clay loam, silty clay loam, silty clay, clay	2.5	2.5	1.25	1.25

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West Texas and Southwest Oklahoma Only: Prior to application of Zorial, completely destroy the seed beds of the previous year by "cross-discing". Apply Zorial PPI only. To prevent removal of the herbicide application by wind, immediate incorporation is recommended. Soybeans can be planted as a replacement crop 45 days after the first planting of cotton. Do not plant peanuts as a replacement crop. Do not use Zorial on furrow planted cotton or on glandless cotton varieties. Do not use on sand or loamy sand (soils with greater than 70% sand content).

ZORIAL 80WP TANK MIX COMBINATIONS IN COTTON

Zorial 80WP plus Cotoran® 80W Overlay or Tank Mix

This combination is recommended for improved control of cocklebur and morningglory.

Overlay: Apply 1/2 to the full rate of Zorial 80WP ppi as recommended on its label. Apply 1/2 to the full rate of Cotoran 80WP as a preemergence overlay as recommended on its label.

Tank Mix: Apply 1/2 the recommended rate of Zorial 80WP ppi as directed for the Zorial split, and apply a tank mix of the remaining half rate of Zorial plus 1/2 to the full recommended rate of Cotoran 80W as a preemergence overlay in 20 gallons of water per acre. Or apply a tank mix of 1/2 to the full recommended rate of Zorial 80WP plus 1/2 to the full recommended rate of Cotoran 80W as a preemergence treatment in 20 gallons of water per acre.

Refer to the Zorial and Cotoran labels for further directions and precautions.

Zorial 80WP plus Bladex Overlay or Tank Mix

This combination is recommended for improved control of cocklebur and morningglory.

Overlay: Apply 1/2 to the full rate of Zorial 80WP ppi as recommended on its label. Apply 3/4 to the full rate of Bladex 80W or Bladex 4L as a preemergence overlay as recommended on those labels.

Tank Mix: Apply a tank mix of 3/4 the rate of Zorial recommended on its label and 3/4 the rate of Bladex 80W or Bladex 4L recommended on those labels as a preemergence treatment. Apply in 15-20 gallons of water per acre.

Zorial 80WP plus DNA Herbicides (Ireflan®, Prowl®, or Basagran®)

Zorial 80 WP may be tank mixed with dinitroaniline (DNA) herbicides and incorporated for control of a broader spectrum of weeds than either product alone.

Apply a tank mix of Zorial and a DNA herbicide as a ppi treatment. Use the full rate of Zorial as recommended on its label and from 1/2 to full rate of the DNA herbicide as recommended on its label.

Or apply and incorporate the half rate of Zorial and the full rate of the DNA herbicide as a tank mix, and apply the remaining half rate of Zorial preemergence surface as directed for the Zorial split. Refer to the label of the DNA herbicide for specific directions for timing and application of the ppi treatment.

NOTE: Zorial 80WP is not compatible with Ireflan M.I.F. In addition, Zorial 80WP may not always be compatible with other formulations of DNA herbicides. Always predetermine tank mix compatibility by mixing small proportional quantities in a quart jar or other small container. If after vigorous shaking there are large flakes, gel, or sludge, or other signs of incompatibility, do not spray the combination. Always follow the order of addition given in the mixing instructions section of this label.

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Zorial plus Karmex® Tank Mix

This combination will control a broader spectrum of weeds than either product used alone.

Apply a tank mix of Zorial and Karmex as a preemergence treatment. Use 1/2 to 3/4 the rate of Zorial recommended on its label and 1/2 to 3/4 the rate of Karmex recommended on its label. Apply in 25 gallons of water per acre.

Refer to the Zorial and Karmex labels for further directions and precautions.

Zorial plus Postemergence Cotton Herbicides

Treatment with Zorial BDWP may be followed by application of the above postemergence herbicides, including Fusilade® and Poast®, for control of escaped weeds in cotton.

Band Treatment: When applying a band treatment of Zorial BDWP the following formula may be used to calculate the amount per acre:

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Rate in lbs per acre broadcast treatment} = \text{Pounds per acre for band treatment}$$

STORAGE AND DISPOSAL

Storage: Do not store near or contaminate feed or foodstuffs. *Consult with 93 3*

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

Container Disposal: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Prowl® reg. t.m. of American Cyanamid Co.
Basagran®, Basalin®, reg. t.m. of BASF Wyandotte Corp.
Sencor® reg. t.m. of Farben Fabriken Bayer
SmbH. Leverkusen
Ortho-Trol® reg. t.m. of Chevron Chemical
Co.
Cotoran®, Dual®, reg. t.m. of Ciba-GEIGY
Corp.
Karmex®, Lexone®, Lorox® reg. t.m. of E.I.
DuPont de Nemours and Co.
Surflan®, Ireflan® reg. t.m. of Eganco
Products Co.
Fusilade®, reg. t.m. of ICI Americas Inc.
Lasso® reg. t.m. of Monsanto Co.
Nalco-Trol® reg. t.m. of Nalco Chemical Co.
Bladex® reg. t.m. of Shell Chemical Co.
Amiben® reg. t.m. of Union Carbide Agri-
cultural Products Co.
Dyanap® reg. t.m. of Uniroyal
Premerge® reg. t.m. of Vertac Chemical Corp.

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P. Michael Schroeder
Sandoz Inc., Crop Protection
480 Camino Del Rio South, Suite 204
San Diego, CA 92108

OCT 7 1983

Dear Mr. Schroeder:

Subject: Various Label Amendments
Zorial 60 WP
EPA Registration Number 11273-13
Submission: September 27, 1983

The amendments referred to above, submitted in connection with registration under the Federal Insecticide Fungicide and Rodenticide Act, as amended are acceptable provided that you:

1. Make the labeling changes listed below before you release the product for shipment bearing the amended labeling:
 - a. Delete all references and directions for tank-mixing Zorial 60 WP with Basagran (Basalin). The Basagran label (Reg. # 7969-45) carries a prohibition against any Basagran tank mix not specifically recommended on that (Basagran) label. We have no objection to the reference to postemergence use of Basagran in soybeans.
2. Submit five (5) copies of your final printed labeling before you release the product for shipment.

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

Sincerely yours,

Richard F. Mountfort
Product Manager (23)
Fungicide-Herbicide Branch
Registration Division (TE-767)

Inclosure

TE-767:Mountfort:LEA-25930:WARG-02841:jad:paven:479-2013:10/6/83

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CONCURRENCES							
SYMBOL							
SURNAME							
DATE							

EPA Form 1320-1 (4-81) OFFICIAL FILE COPY