PM 23

10182 - 421

6 5.97 Page 1 of 7 TWISTER Container TWIS421C.MAS - 5/19/97

14

TWISTER™ Herbicide

For Postemergence Control of Broadleaf Weeds and Grasses in Soybeans

COMPLETE DIRECTIONS FOR USE

ACTIVE INGREDIENT:

Fluazifop-P-Butyl	
Butyl(R)-2-[4-[[5-(trifluromethyl)-2-py	ridiny[]oxy]phenoxy]propanoate
Fenoxaprop-P-ethyl	
(+)-ethyl-2-[4-[6-(chloro-2-benzoxazo	olyl]oxy]phenoxy]propanoate
Sodium salt of fomesafen	
5-[2-chloro-4-(trifluoromethyl)phenox	cy]-N-
(methylsulfonyl)-2-nitrobenzamide	

Contains 0.57 lbs (+) isomer (fluazifop-p-butyl), 0.16 lbs fenoxaprop-p-ethyl and 1.09 lbs fomesafen (acid equivalent) active ingredient per gallon.

EPA Reg. No. 10182-421

KEEP OUT OF REACH OF CHILDREN

JUN 5 1997 Under the Federal Insecticide. Fungicide. and Rodenticide Act. as amonded. for the pesticide registored under EPA Reg. No. 10182-421

ACCEPTED

DANGER - PELIGRO

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 SIDE PANEL FOR STATEMENT OF PRACTICAL TREATMENT AND PRECAUTIONARY STATEMENTS

Made in U.S.A. ZENECA Ag Products ZENECA Inc. Wilmington, DE 19850-5458

Page 2 of 7 TWISTER Container TWIS421C.MAS - 5/19/97

, , , , , ,

ו כוכ ככ 2429

STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED: Call a physician or Poison Control Center. 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.

IF ON SKIN: Wash with plenty of soap and water. Get medical attention.

IF INHALED: Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

IF IN EYES: Hold eyelids open and flush with a steady, gentle stream of water for 15 minutes. Get medical attention.

NOTE TO PHYSICIANS: Probable mucosal damage may contraindicate the use of gastric lavage.

FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE, CALL 1-800-F-A-S-T-M-E-D (327-8633).

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure; or accident call CHEMTREC 1-800-424-9300.

rage 3 of 7	
TWISTER Container	
TWIS421C.MAS - 5/19/97	

3129

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER

This product contains fomesafen which has been determined to cause tumors in laboratory animals (mice). Risks can be reduced by closely following use directions and precautions and by wearing the protective clothing specified elsewhere on this label.

Corrosive. Causes irreversible eye damage and skin irritation. Harmful if swallowed, inhaled or absorbed through skin. Do not get in eyes, on skin or on clothing. Avoid breathing vapor or spray mist. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

PERSONAL PROTECTIVE EQUIPMENT

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

Applicators and other handlers must wear:

- Coveralls over short-sleeved shirt and short pants.
- Chemical-resistant gloves such as Barrier Laminate, Butyl Rubber, Nitrile Rubber, Neoprene Rubber, PVC or Viton.
- Chemical resistant footwear plus socks.
- Protective eyewear.
- Chemical resistant apron when cleaning equipment, mixing or loading.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS. e el constant de la constance.

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.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Page 4 of 7 TWISTER Container TWIS421C.MAS - 5/19/97

ENVIRONMENTAL HAZARDS

This product is toxic to fish. 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. Do not apply when weather conditions favor drift from target area.

This product contains the active ingredient fomesafen which is known to leach through soil into ground water under certain conditions as a result of label use. Use of this product in areas where soils are permeable, particularly where the water table is shallow, may result in ground-water contamination.

PHYSICAL AND CHEMICAL HAZARDS

2023

Do not use or store near heat or open flame.

4729

5-7-29

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. 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 manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of ZENECA or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold ZENECA and Seller harmless for any claims relating to such factors.

ZENECA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or ZENECA, and Buyer and User assume the risk of any such use. ZENECA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

In no event shall ZENECA or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF ZENECA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF ZENECA OR SELLER, THE REPLACEMENT OF THE PRODUCT.

ZENECA and Seller offer this product, and Buyer and User accept it, subject to the foregoing conditions of sale and limitations of warranty and of liability, which may not be modified except by written agreement signed by a duly authorized representative of ZENECA.

Page 6 TWISTER Container TWIS421C.MAS - 5/19/97

. . . .

• •

69 29

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.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling (i.e., attached booklet) under "AGRICULTURAL USE REQUIREMENTS" in the DIRECTIONS FOR USE section for information about this standard.

STORAGE AND DISPOSAL

PROHIBITIONS: Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited. Do not reuse empty container.

STORAGE: Store above 45°F in original containers only. If product solidifies, return to room temperature and agitate to reconstitute. Keep container closed when not in use. Do not store near food or feed. In case of spill or leak on floor or paved surfaces, soak up with sand, earth or synthetic absorbent. Remove to chemical waste area.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL:

Metal Containers: Triple rinse (or equivalent); then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

Plastic Containers: 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.

Glass Containers: Triple rinse (or equivalent); then dispose of in a sanitary landfill or by other approved state and local procedures.

Page 7 TWISTER Container TWIS421C.MAS - 5/19/97 77 29

FOR BULK AND MINI-BULK CONTAINERS:

Container Disposal: Reseal container and offer for reconditioning, or triple rinse (or equivalent) and offer for recycling or reconditioning, or clean in accordance with manufacturer's instructions. **Container Precautions:** Before refilling, inspect thoroughly for damage, such as cracks, punctures, bulges, dents, abrasions and damaged or worn threads on closure devices.

REFILL ONLY WITH TWISTER. The contents of this container cannot be completely removed by cleaning. Refilling with materials other than TWISTER will result in contamination and may weaken container. After filling and before transporting, check for leaks.

Do not refill or transport damaged or leaking container.

CONTAINER IS NOT SAFE FOR FOOD, FEED OR DRINKING WATER.

TWISTER™ is a a trademark of a ZENECA Group Company.

TWISTER Booklet TWIS421B.RSB - 5/19/97 84 29

TWISTER™ Herbicide

For Postemergence Control of Broadleaf Weeds and Grasses in Soybeans

COMPLETE DIRECTIONS FOR USE

ACTIVE INGREDIENT:

,
idinyl]oxy]phenoxy]propanoate
lyl]oxyjphenoxy]propanoate 1.86%
y]-N-
13.18%

Contains 0.57 lbs (+) isomer (fluazifop-p-butyl), 0.16 lbs fenoxaprop-p-ethyl and 1.09 lbs fomesafen (acid equivalent) active ingredient per gallon.

EPA Reg. No. 10182-421

KEEP OUT OF REACH OF CHILDREN

DANGER - PELIGRO

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

Made in U.S.A. ZENECA Ag Products ZENECA Inc. Wilmington, DE 19850-5458

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. 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 manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of ZENECA or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold ZENECA and Seller harmless for any claims relating to such factors.

ZENECA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or ZENECA, and Buyer and User assume the risk of any such use. ZENECA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

In no event shall ZENECA or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF ZENECA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF ZENECA OR SELLER, THE REPLACEMENT OF THE PRODUCT.

ZENECA and Seller offer this product, and Buyer and User accept it, subject to the foregoing conditions of sale and limitations of warranty and of liability, which may not be modified except by written agreement signed by a duly authorized representative of ZENECA.

Page 3 TWISTER Booklet TWIS421B.RSB - 5/19/97

Page

10 7 29

TABLE OF CONTENTS

STATEMENT OF PRACTICAL TREATMENT PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS PERSONAL PROTECTIVE EQUIPMENT ENVIRONMENTAL HAZARDS DIRECTIONS FOR USE AGRICULTURAL USE REQUIREMENTS STORAGE AND DISPOSAL **GENERAL INFORMATION APPLICATION DIRECTIONS** Timing Spray Additives Ground Application **Band Applications Aerial Application** Cultivation **GENERAL USE PRECAUTIONS** TWISTER IN SOYBEANS - USE RATES AND WEEDS CONTROLLED **REGIONAL USE MAP** Application Rates for Weed Growth Stages SPECIAL USE DIRECTIONS FOR ADDITIONAL WEED PROBLEMS TANKMIX AND SEQUENTIAL APPLICATIONS FOR SOYBEANS APPENDIX

Sec. . .

11 1 29 ----Page 4

TWISTER Booklet TWIS421B.RSB - 5/19/97

.

STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED: Call a physician or Poison Control Center. 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.

IF ON SKIN: Wash with plenty of soap and water. Get medical attention.

IF INHALED: Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

IF IN EYES: Hold eyelids open and flush with a steady, gentle stream of water for 15 minutes. Get medical attention.

NOTE TO PHYSICIANS: Probable mucosal damage may contraindicate the use of gastric lavage.

FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE, CALL 1-800-F-A-S-T-M-E-D (327-8633).

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident call CHEMTREC 1-800-424-9300.

Page 5 TWISTER Booklet TWIS421B.RSB - 5/19/97

12729

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER

This product contains fomesafen which has been determined to cause tumors in laboratory animals (mice). Risks can be reduced by closely following use directions and precautions and by wearing the protective clothing specified elsewhere on this label.

Corrosive. Causes irreversible eye damage and skin irritation. Harmful if swallowed, inhaled or absorbed through skin. Do not get in eyes, on skin or on clothing. Avoid breathing vapor or spray mist. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

PERSONAL PROTECTIVE EQUIPMENT

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

Applicators and other handlers must wear:

- Coveralls over short-sleeved shirt and short pants.
- Chemical-resistant gloves such as Barrier Laminate, Butyl Rubber, Nitrile Rubber, Neoprene Rubber, PVC or Viton.
- Chemical resistant footwear plus socks.
- Protective eyewear.
- Chemical resistant apron when cleaning equipment, mixing or loading.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

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.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Page 6 TWISTER Booklet TWIS421B.RSB - 5/19/97 13729

ENVIRONMENTAL HAZARDS

This product is toxic to fish. 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. Do not apply when weather conditions favor drift from target area.

This product contains the active ingredient formesaten which is known to leach through soil into ground water under certain conditions as a result of label use. Use of this product in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

PHYSICAL AND CHEMICAL HAZARDS

Do not use or store near heat or open flame.

BEST AVAILABLE COPY

TWISTER Booklet TWIS421B.RSB - 5/19/97

Page 7

14729

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.

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 24 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls over short-sleeved shirt and short pants.
- Chemical-resistant gloves such as Barrier Laminate, Butyl Rubber, Nitrile Rubber, Neoprene Rubber, PVC or Viton.
- Chemical resistant footwear plus socks.
- Protective eyewear.

Page 8 TWISTER Booklet TWIS421B.RSB - 5/19/97

STORAGE AND DISPOSAL

PROHIBITIONS: Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited. Do not reuse empty container.

STORAGE: Store above 45°F in original containers only. If product solidifies, return to room temperature and agitate to reconstitute. Keep container closed when not in use. Do not store near food or feed. In case of spill or leak on floor or paved surfaces, soak up with sand, earth or synthetic absorbent. Remove to chemical waste area.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL:

Metal Containers: Triple rinse (or equivalent); then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

Plastic Containers: 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.

Glass Containers: Triple rinse (or equivalent); then dispose of in a sanitary landfill or by other approved state and local procedures.

FOR BULK AND MINI-BULK CONTAINERS:

Container Disposal: Reseal container and offer for reconditioning, or triple rinse (or equivalent) and offer for recycling or reconditioning, or clean in accordance with manufacturer's instructions. **Container Precautions:** Before refilling, inspect thoroughly for damage, such as cracks, punctures, bulges, dents, abrasions and damaged or worn threads on closure devices.

REFILL ONLY WITH TWISTER. The contents of this container cannot be completely removed by cleaning. Refilling with materials other than TWISTER will result in contamination and may weaken container. After filling and before transporting, check for leaks.

Do not refill or transport damaged or leaking container.

CONTAINER IS NOT SAFE FOR FOOD, FEED OR DRINKING WATER.

GENERAL INFORMATION

Read all label directions before using.

TWISTER herbicide is a selective early postemergence herbicide for control of grass and broadleaf weeds in soybeans.

TWISTER herbicide has systemic activity moving from the treated foliage into the shoots, roots, rhizomes, stolons, and growing points (meristematic regions) of treated grass weeds and contact activity for broadleaf weeds. Thorough coverage of all weed plant foliage is important for good

Page 9 TWISTER Booklet TWIS421B.RSB - 5/19/97 16729

activity. Optimum weed control is achieved when young actively growing weeds are treated that are not under stress from moisture, temperature, low soil fertility, mechanical or chemical injury. Best perennial grass control can be obtained if rhizomes or stolens are cut up by preplant tillage practices (discing, plowing, etc.) to stimulate emergence of grass shoots.

Control Symptoms: Growth of treated grass weeds stops soon after application. Symptoms include loss of vigor, yellowing and/or reddening, and eventual death to the treated grass plant. Symptoms on grass weeds are generally observed within one week, depending on species and environmental conditions.

Symptoms on broadleaf weeds occur within 3 days and appear as browning and crinkling.

Soybean plants are tolerant to TWISTER herbicide when it is applied at the recommended rate. There may be slight bronzing, crinkling or spotting of soybean leaves but soybeans soon outgrow these effects and develop normally.

Information on Weed Resistance:

Naturally occurring biotypes of certain grass species with resistance to this herbicide and related products (same mode of action) are known to exist. Selection of resistant biotypes, through repeated use of these herbicides, may result in control failures.

If poor performance cannot be attributed to adverse weather conditions or improper application methods, a resistant biotype may be present. In such a case, additional treatments with this herbicide or related products is not recommended. Consult your local company representative or agricultural advisor for assistance.

APPLICATION DIRECTIONS

TIMING: Best control of susceptible weeds is obtained when TWISTER is applied early to actively growing weeds. This usually occurs 14 to 28 days after planting. Refer to the weed tables for specific recommendations on weed growth stages, rates, and regions.

SPRAY ADDITIVES: Only spray additives cleared for use on growing crops under 40 CFR 180.1001 may be used.

In the Northern region (see Regional Use Map), TWISTER should be used with a minimum of 2.5% of liquid nitrogen (28% or similar) or a minimum of 10 pounds ammonium sulfate per 100 gallons of spray volume.

Liquid and dry nitrogen fertilizer should not be used as a substitute for crop oil concentrate or nonionic surfactant in the spray mixture.

Page 10 TWISTER Booklet TWIS421B.RSB - 5/19/97

> н най 1 х 1 х х

17 1 29

Always Add One of the Following:

Nonionic Surfactant (NIS) - Use NIS containing at least 75% surface active agent at 0.25%-0.5% (1/2-1 pint per 25 gallons) of the finished spray volume (Southern Region Only).

Crop Oil Concentrate (COC) - Use a nonphytotoxic COC or a once refined vegetable oil concentrate (VOC, MSO) containing 15-20% approved emulsifier at 0.5%-1% (1-2 pints per 25 gallons) of finished spray volume.

Other Adjuvants - Adjuvants other than COC or NIS may be used providing the product meets the following criteria:

- 1. Contains only EPA exempt ingredients.
- 2. Is nonphytotoxic to the target crop.
- 3. Is compatible in mixture. (May be established through a jar test.)
- 4. Is supported locally for use with TWISTER on the target crop through proven field trials and through university and extension recommendations.

Recommended Mixing Order:

- 1. Half required amount of water, begin agitation.*
- 2. Dry pesticide formulations.
- 3. TWISTER herbicide.
- 4. Liquid pesticide formulation.
- 5. Adjuvant (COC or NIS) and fertilizer.

*Compatibility agent, 1 gallon/500 gallons of water or 0.2% v/v, may be added as needed.

GROUND APPLICATION: Use sufficient spray volume and pressure to ensure complete coverage of the target weeds. A spray volume of 10-20 gallons per acre and 30-60 psi at the nozzle tip is recommended. When weed foliage is dense, use 60 psi and a minimum of 20 gallons per acre to ensure coverage of weed foliage.

Use only hollow cone or flat fan nozzles. The sprayer must be calibrated to provide the proper volume and rate per acre. In addition, the boom and nozzle height must be adjusted to provide complete coverage of all weeds.

DO NOT USE FLOOD TYPE OR OTHER SPRAY NOZZLES, WHICH DELIVER COARSE, LARGE DROPLET SPRAYS.

DO NOT APPLY THIS PRODUCT THROUGH ANY TYPE OF IRRIGATION SYSTEM.

BAND APPLICATIONS: Thorough weed coverage is important for control. Best coverage is obtained with a minimum of two nozzles, one directed to each side of the planted row. Application with a single nozzle directed over the top of the row is not recommended. Cultivation of untreated areas may be needed following band applications. When making band applications and cultivating in the same operation, position nozzles in advance of the cultivation device. This will reduce dust in the spray area. Dust can intercept spray, reducing weed coverage, resulting in less than adequate weed control.

Page 11 TWISTER Booklet TWIS421B.RSB - 5/19/97 18 9-29

Calculate the amount of herbicide and water volume needed for band treatment by the following formulas:

Band width in inches X row width in inches	broadcast rate per acre	= .	Band herbicide rate per acre
Band width in inches X row width in inches	broadcast volume per acre	=	Band water volume per acre

AERIAL APPLICATION: Use sufficient spray volume and pressure to ensure complete coverage of the target weeds. A minimum of 5 gallons per acre of spray mixture should be applied with a maximum of 40 PSI pressure. When broadleaf weed foliage is dense, use a minimum of 10 gallons per acre to ensure coverage of weed foliage.

CULTIVATION: Cultivation prior to application is not recommended. Cultivation may put weeds under stress, reducing weed control. Timely cultivation 1-3 weeks after applying TWISTER may assist weed control.

GENERAL USE PRECAUTIONS

- A maximum of 2.75 pints/A of TWISTER herbicide may be used per season in Region 1 (see Regional Use Map).
- A maximum of 2.75 pints/A of TWISTER herbicide may be applied in alternate years in Region 2 (see Regional Use Map).
- A maximum of 2.25 pints/A of TWISTER herbicide may be applied in alternate years in Region 3 (see Regional Use Map).
- A maximum of 1.8 pints/A of TWISTER herbicide may be applied in alternate years in Region 4 (see Regional Use Map).
- Do not apply TWISTER or any other fomesafen containing product to any field in Regions 2, 3 or 4 more than once every two years.
- Thoroughly clean spray tank with water and a commercial tank cleaner before and after each use.
- Do not apply TWISTER less than 90 days before harvesting soybeans.
- Tankmixes of TWISTER herbicide with other pesticides, fertilizers or any other additives except as specified on this label or other approved ZENECA supplemental labels may result in tankmix incompatibility, unsatisfactory performance and/or unsatisfactory crop injury.
- TWISTER herbicide requires a 1-hour rain-free period for best results.
- Apply to actively growing weeds. Avoid applying TWISTER to weeds or soybeans which are under stress from moisture, temperature, low soil fertility, mechanical or chemical injury, as reduced weed control and/or increased crop injury may result.
- Avoid overlapping spray swaths, as injury may occur to rotational crops.

197 29

- Avoid drift to all other crops and nontarget areas. Crops other than soybeans may be severely injured by drift. Application is prohibited when wind velocity exceeds 10 mph. Do not make ground or aerial application during temperature inversions.
- To provide adequate coverage, it is recommended that ground speed not exceed 10 MPH during application.
- Do not graze treated areas or harvest for forage or hay.

ROTATIONAL CROP RESTRICTIONS

The following rotational crops may be planted after applying TWISTER at recommended rates in soybeans:

Crop To Be Planted	Minimum Rotation Interval (Months After Last TWISTER Application)
Small grains such as wheat, barley, rye	
Alfalfa, beans, com*, cotton, peanuts, peas, rice	10
To avoid crop injury do not plant sunflowers, sugar sorghum** or any other crop within	•
Do not graze rotated small grain crops or harvest fo	prage or straw for livestock. In the event of

Do not graze rotated small grain crops or harvest forage or straw for livestock. In the event of crop loss due to weather conditions soybeans can be replanted.

*Use 18 month minimum rotation interval for sweet corn in the states of Maine, Massachusetts, New Hampshire, New York, Rhode Island and Vermont.

**Sorghum may be planted back after 10 months in Region 1.

Page 13 TWISTER Booklet TWIS421B.RSB - 5/19/97 20 4 29

TWISTER IN SOYBEANS - USE RATES AND WEEDS CONTROLLED

REFER TO MAP FOR DEFINITION OF SPECIFIED GEOGRAPHIC REGIONS

REGION 1

Region 1 - Includes the following states or portion of states where TWISTER herbicide may be applied: Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Missouri (Counties of Bollinger, Butler, Cape Giradeau, Dunklin, Madison, Mississippi, New Madrid, Pemiscot, Perry, Ripley, Scott, Stoddard and Wayne), North Carolina, Oklahoma (East of U. S. Highway 75 and East of Indian Nation Parkway), South Carolina, Tennessee and Texas (all areas East of Highway 77 to State Road 239, including all of Calhoun County).

REGION 2

REGION 2 - Includes the following states where TWISTER may be applied: Delaware, Illinois (South of Interstate 70), Indiana (South of Interstate 70), Kentucky, Maryland, Ohio (South of Interstate 70), Virginia and West Virginia.

REGION 3

REGION 3 - Includes the following states or portion of states where TWISTER may be applied: Indiana (all areas not in Region 2), Illinois (all areas not in Region 2), Iowa, Maine, Massachusetts, Missouri (all counties except for those listed in Region 1), New Hampshire, New Jersey, New York, Ohio (all areas not in Region 2), Pennsylvania, Rhode Island, Vermont, and Wisconsin (South of U.S. Highway 18 between Prairie Du Chien and Madison, and South of Interstate 94 between Madison and Milwaukee).

REGION 4

REGION 4 - Includes the following states or portion of states where TWISTER may be applied: Kansas (all areas east of U.S. Highway 75), Michigan (all areas south of State Road 55), Minnesota (all areas south of U.S. Highway 212), Nebraska (all areas east of U.S. Highway 81), and Wisconsin (North of U.S. Highway 18 between Prairie Du Chien and Madison, and South of Interstate 94 from Hudson to Madison).

Page 14 TWISTER Booklet TWIS421B.RSB - 5/19/97

APPLICATION RATES FOR WEED GROWTH STAGES

Weeds Controlled		WISTER Rate (Pts/A)	
	Maximu	m Growth Stage Contro	lled At
Broadleaf Weeds	1.8 Pts/A # of True Leaves	2.25 Pts/A # of True Leaves	2.75 Pts/A # of True Leaves
Anoda, Spurred	2*	2	4
Carpetweed	8" Diameter Size	Unlimited Size	Unlimited Size
Citron (Wild Watermelon)	4	4	6
Cocklebur, Common	4	6	8
Copperleaf, Hophornbeam	4	4	6
Copperleaf, Virginia	4	4	6
Crotalaria, Showy	6	6	66
Croton, Tropic	4	4	6
Cucumber, Volunteer	4	6	8
Eclipta	2	4	4
Groundcherry, Cutleaf	4	6	· 8
Jimsonweed	6	8	8
Ladysthumb	2	4	66
Lambsquarters, Common	2*	2*	2*
Mexicanweed	2*	2	4
Morningglory			
Cypressvine	4	6	66
Entireleaf var.	3	4	55
lvyleaf	3	4	5
Purple Moonflower	3	5	6
Red (Scarlet)	3	6	6
Smallflower	3	4	ĥ
Pitted (Smallwhite)	4	6	6
Tall (Common)	2	3	5
Palmleaf (Willowieaf)	3	6	6
Mustard, Wild	6	8	8
Nightshade, Black	4	6	6
Nutsedge, Yellow		*	· · · · · · · · · · · · · · · · · · ·
Pigweed, spp.]		

)

21 - 29

Page 15 TWISTER Booklet TWIS421B.RSB - 5/19/97

224 29

Weeds Controlled	Т	WISTER Rate (Pts/A)	
	Maximu	m Growth Stage Contro	lied At
Broadleaf Weeds	1.8 Pts/A # of True Leaves	2.25 Pts/A # of True Leaves	2.75 Pts/A # of True Leaves
Amaranth, Palmer	4	6	6
Amaranth, Spiny	2	4	6
Redroot	4	6	8
Smooth	4	6	6
Waterhemp, Common	4	4	6
Waterhemp, Tall	4	4	6
Poinsettia, Wild	2	. 4	6
Purslane, Common	Multi-Leaf 6" Diameter	Multi-Leaf 8" Diameter	Multi-Leaf 8" Diameter
Pusley, Florida	22	2	4
Ragweed, Common	4	6	8
Ragweed, Giant	4	6	8
Redweed	<u> </u>	2*	3*
Sesbania, Hemp	8	12	12
Sicklepod		Cotyledon*	Cotyledon*
Sida, Prickly	2*	2	4
Smartweed, Pennsylvania	4	6	6
Smellmelon	2	. 2	4
Spurge, Prostrate		1" Diameter*	2" Diameter*
Spurge, Spotted		2*	2*
Starbur, Bristly	4	4	6
Sunflower, Common	2	4	6
Velvetleaf	4	4	6
Venice Mallow	6	6	8
Witchweed	· Multi-leaf Up to 7"	Multi-leaf Up to 10''	Multi-ienf Up to 10"
Yellow Rocket	4	6	8
*Suppression On	ly		

•

:

Page 16 TWISTER Booklet TWIS421B.RSB - 5/19/97

	TWISTER Rate (Pts/A) Maximum Growth Stage Controlled At		
Weeds Controlled			
Grass Weeds	1.8 Pts/A Ht. (In.)	2.25 Pts/A Ht. (In.)	2.75 Pts/A Ht. (In.)
Barnyardgrass	2	4	44
Bermudagrass		4	8
Broadleaf Signalgrass		2	44
Crabgrass	22	2	44
Downy Brome	4	4	6
Fall Panicum	4	. 4	6
Field Sandbur	2	2	4
Foxtails			
Giant Foxtail	4	6	8
Green Foxtail	4	· 2	44
Yellow Foxtail		2	3
Goosegrass	2	2	4
Italian Ryegrass	2	2	4
Itchgrass	6	12	24
Johnsongrass, Rhizome		10	18
Johnsongrass, Seedling	4	6	8
Junglerice	1	2	3
Quackgrass		6*	10
Red Rice		1	1
Shattercane	4	6	12
Sorghum almum	4	6	12
Southern Sandbur	1	2	4
Texas Panicum	. 2	4	8
Volunteer Cereals			
V. Barley	4	4	6
V. Com	12	24	24
V. Milo	4	6	12
V. Oats	4	6	6

)

÷

23 7 29

Page 17 TWISTER Booklet TWIS421B.RSB - 5/19/97

> · · · · · · • • •

, , , , , , , , , , , , ,

, ;

24729

	TWISTER Rate (Pts/A)			
Weeds Controlled	Maximur	n Growth Stage Contro	lled At	
Grass Weeds	1.8 Pts/A Ht. (in.)	2.25 Pts/A Ht. (In.)	2.75 Pts/A Ht. (In.)	
V. Rye	4	6	66	
V. Wheat	4	6	6	
Wild Oats	4	6	6	
Wild Proso Millet	4	· 8	10	
Wirestem Muhly		4	12	
Witchgrass	2	. 4	4	
Woolly Cupgrass	-	2	4	

* Suppression Only

۰,

Page 18 TWISTER Booklet TWIS421B.RSB - 5/19/97 25 1 29

SPECIAL USE DIRECTIONS FOR ADDITIONAL WEED PROBLEMS

Suppression of Perennial Weeds:

Use of TWISTER at rates of 2.25-2.75 pints/acre will aid in suppressing the above-ground portions of the weeds listed below until crop canopy can assist in suppression. Perennial weeds continue to regrow from underground rootstocks even if above-ground foliage is temporarily controlled or retarded. Even though TWISTER and crop competition can suppress perennial weeds for a growing season, the rootstocks will continue to live and reestablishment will occur in subsequent years.

Milkweed, Climbing Milkweed, Honeyvine Bindweed, Field Bindweed, Hedge Trumpetcreeper

TANKMIX AND SEQUENTIAL APPLICATIONS FOR SOYBEANS

TWISTER can be used sequentially or in tankmix with one or more of the following products: Pursuit[®], Basagran[®], Classic[®], Concert[®], Pinnacie[®], Synchrony STS[®], Scepter[®], Scepter[®] OT, Resource[®], Butyrac[®] and Roundup Ultra.

Under certain conditions, the mixture of TWISTER with one of the above mentioned broadleaf herbicides may cause a reduction in activity of postemergence grass control.

For sequential applications, allow 7 days after application of TWISTER before applying any other postemergence grass or broadleaf herbicide.

Tankmix applications can result in increases in crop injury as compared to either product used alone.

Do not exceed 1 fluid ounce of Butyrac per acre in mixture with TWISTER.

Always read and follow the restrictions and limitations for all products whether used alone, sequentially or in a tankmix. The most restrictive labelling of any product used applies.

Page 19 TWISTER Booklet TWIS421B.RSB - 5/19/97

26729

APPENDIX

Scientific names are listed for those weeds referred to in the TWISTER label.

COMMON NAME	SCIENTIFIC NAME
Amaranth, Palmer	Amaranthus palmeri
Amaranth, Spiny	Amaranthus spinosus
Anoda, Spurred	Anoda cristata
Barnyardgrass	Echinochloa crus-galli
Bermudagrass	Cynodon dactylon
Bindweed, Field	Convolvulus arvensis
Bindweed, Hedge	Calystegia sepium
Broadleaf Signalgrass	Brachiaria platyphylla
Brome, Downy	Bromus tectorum
Carpetweed	Mollugo verticillata
Citron (Wild Watermelon)	Citrullus vulgaris
Cocklebur, Common	Xanthium strumarium
Copperleaf, Hophornbeam	Acalypha ostryifolia
Copperleaf, Virginia	Acalypha virginica
Crabgrass	Digitaria spp.
Crotalaria, Showy	Crotalaria spectabilis
Croton, Tropic	Croton glandulosus
Cucumber, Volunteer	Cucumis sativas
Eçlipta	Eclipta prostrata
Field Sandbur	Cenchrus incertus
Foxtail, Giant	Setaria faberi
Foxtail, Green	Setaria viridis
Foxtail, Yellow	Setaria glauca
Goosegrass	Eleusine indica
Groundcherry, Cutleaf	Physalis angulata
Itchgrass	Rottboellia exaltata
Jimsonweed	Datura stramonium
Johnsongrass, Rhizome	Sorghum halapense
Johnsongrass, Seedling	Sorghum halepense
Junglerice	Echinochloa colonum

)

Page 20 TWISTER Booklet TWIS421B.RSB - 5/19/97

27 7 29

Ladysthumb	Polygonum persicaria
Lambsquarters, Common	Chenopodium album
Mexicanweed	Caperonia castaniifolia
Milkweed, Climbing	Sarcostemma cyanchoides
Milkweed, Honeyvine	Ampelamus albidus
Morningglory, Cypressvine	Ipomoea quamoclit
Entireleaf	Ipomoea hederacea var. integriuscula
lvyleaf	lpomoea hederacea var. hederacea
Purple Moonflower	Ipomoea turbinata
Red (Scarlet)	Ipomoea coccinea
Smallflower	Jacquemontia tamnifolia
Pitted (Smallwhite)	Ipomoea lacunosa
Tall (Common)	Ipomoea purpurea
	· · · · · · · · · · · · · · · · · · ·

44-14-16-5

-1

day:

ie algebrie

, , , , , , , , , , , , , , , , , , , ,	
Milkweed, Honeyvine	Ampelamus albidus
Morningglory, Cypressvine	Ipomoea quamoclit
Entireleaf	Ipomoea hederacea var. integriuscula
l∨yleaf	Ipomoea hederacea var. hederacea
Purple Moonflower	Ipomoea turbinata
Red (Scarlet)	Ipomoea coccinea
Smallflower	Jacquemontia tamnifolia
Pitted (Smallwhite)	Ipomoea lacunosa
Tall (Common)	Ipomoea purpurea
Palmleaf (Willowleaf)	Ipomoea wrightii
Mustard, Wild	Brassica kaber
Nightshade, Black	Solanum nigrum
Nutsedge, Yellow	Cyperus esculentus
Panicum, Fail	Panicum dichotomiflorum
Panicum, Texas	Panicum texanum
Pigweed, Redroot	Amaranthus retroflexus
Pigweed, Smooth	Amaranthus hybridus
Poinsettia, Wild	Euphorbia heterophylla
Purslane, Common	Portulaca oleracea
Pusley, Florida	Richardia scabra
Quackgrass	Agropyron repens
Ragweed, Common	Ambrosia artemisiifolia
Ragweed, Giant	Ambrosia trifida
Redweed	Melochia corchorifolia
Red Rice	Oryza sativa
Ryegrass, Italian	Lolium multiflorum
Sesbania, Hemp	Sesbania exaltata
Shattercane	Sorghum bicolor
Sicklepod	Cassia obtusifolia

Page 21 TWISTER Booklet TWIS421B.RSB - 5/19/97

> ,

\$

COMMON NAME	SCIENTIFIC NAME
Sida, Prickly	Sida spinosa
Smartweed, Pennsyl∨ania	Polygonum pensylvanicum
Smellmelon	Cucumis melo
Sorghum almum	Sorghum almum
Southern Sandbur	Cenchrus echinatus
Spurge, Prostrate	Euphorbia humistrata
Spurge, Spotted	Euphorbia maculata
Starbur, Bristly	Acanthospermum hispidum
Sunflower, Common	Helianthus annuus
Trumpetcreeper	Campsis redicans
Velvetleaf	Abutilon theophrasti
Venice Mallow	Hibiscus trionum
Volunteer Cereals	
V. Barley	Hordeum vulgare
V. Corn	Zea mays
V. Milo	Sorghum bicolor
V. Oats	Avena sativa
V. Rye	Secale cereale
V. Wheat	Triticum aestivum
Waterhemp, Common	Amaranthus rudis
Waterhemp, Tall	Amaranthus tuberculatos
∛Vild Oats	Avena fatua
Wild Proso Millet	Panicum miliaceum
Wirestem Muhly	Muhlenbergia frondosa
Witchgrass	Panicum capillare
Witchweed	Striga asiatica
Wooly Cupgrass	Eriochloa villosa
Yellow Rocket	Barbarea vulgaris

See on the second

· .

٠ ،

.

---- Page 22 TWISTER Booklet TWIS421B.RSB - 5/19/97

29729

TWISTER™ is a a trademark of a ZENECA Group Company.

Basagran[®] is a trademark of BASF Corporation. Classic[®], Concert[®], Pinnacle[®] and Synchrony STS[®] are trademarks of E.I. DuPont de Nemours & Co., Inc.

Pursuit[®], Scepter[®] and Scepter[®] OT are trademarks of American Home Products. Resource[®] are trademarks of Valent Chemical Co.

Butyrac[®] is a trademark of Rhone Poulenc Ag Company. Roundup[®] Ultra is a trademark of Monsanto Company.