### \*\*booklet\*\*

COMMERCIAL

10 L 110 L 415 L BULK

## SUTAN<sup>®</sup> + 8-E

## Emulsifiable Liquid - Selective Herbicide

For field, sweet and silage corn in mineral soils



## READ THE LABEL AND ATTACHED BOOKLET BEFORE USING KEEP OUT OF REACH OF CHILDREN

## GUARANTEE: butylate 800 Grams per Litre

**REGISTRATION NO. 11312 PEST CONTROL PRODUCTS ACT** 

ZENECA Inc. 1800 Concord Pike Wilmington, DE 19850

FOR MORE INFORMATION, CONTACT: ZENECA Agro, 140 Research Lane Research Park Guelph, ON N1G 4Z3

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#### PRECAUTIONS

**KEEP OUT OF REACH OF CHILDREN. HARMFUL IF SWALLOWED.** Avoid contact with skin, eyes and clothing. Avoid breathing spray mist. Wear rubber gloves and fresh clothing. Wash skin thoroughly with soap and water immediately after contact. Flush eyes with water.

#### FIRST AID

Ingestion may produce symptoms. Absorption through skin or inhalation of quantities sufficient to produce poisoning is unlikely.

If a poisoning occurs or is suspected, immediately start the recommended procedures below and simultaneously contact a physician, the nearest hospital, or a Poison Control Centre for further advice.

**If swallowed: DO NOT** induce vomiting. Give large amounts of water and get medical attention immediately.

**If in eyes:** Hold eyelids apart and flush with large amounts of water for at least 15 minutes, and get medical attention.

**If on skin:** Promptly flush with large amounts of water for 15 minutes. Remove any contaminated clothing and get medical attention.

**If inhaled:** Remove from contaminated atmosphere. Get medical attention if respiratory irritation occurs.

Take container label or product name and Pest Control Product Registration Number with you when seeking medical attention.

CONSULT YOUR LOCAL **POISON CONTROL CENTRE** FOR ADDITIONAL INFORMATION.

#### TOXICOLOGICAL INFORMATION

**Do not induce vomiting or lavage stomach.** Aspiration pneumonia from hydrocarbon solvent may complicate or overshadow carbamate poisoning.

Give symptomatic and supportive treatment.

## EMERGENCY TELEPHONE NUMBER

All hours, 1-800-327-8633 (FASTMED) **ONLY** for health and environmental information.

#### STORAGE

Keep container tightly closed when not in use. Do not store near seeds, fertilizers or foodstuffs. Do not contaminate water, food, or feed by storage. Can be stored at temperatures as low as -45°C.

### SPILL CLEANUP

Wear appropriate protective equipment (gloves, glasses, apron) when attempting to clean up the spill. If the container is leaking, secure leak and place the container into a drum or heavy gauge plastic bag. Contact Zeneca Agro (see EMERGENCY TELEPHONE NUMBER) for further information.

For spills and leaks; contain the liquid with dikes of inert material (soil, clay, kitty litter etc..). Absorb the spill onto inert material and shovel into a sealable waste container

<u>On hard surfaces</u> - sprinkle spill area with detergent and scrub in a small quantity of water with a coarse broom. Let stand 10 minutes then absorb onto an inert material and shovel into the waste container.

<u>On soil</u> - remove the top 15 cm of soil in the spill area and replace with fresh soil. Dispose of all waste including scrub brush in accordance with provincial requirements. For information on disposal of unused, unwanted product, contact the manufacturer or provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

#### DISPOSAL

#### Returnable Container

Return the empty container as is (do not rinse) to the distributor or Zeneca Agro. For information on disposal of unused, unwanted product, contact the manufacturer or provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

#### Non-Returnable Container

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.

2. Follow provincial instruction for any required additional cleaning of the container prior to its disposal.

- 3. Make the empty container unsuitable for further use.
- 4. Dispose of the container in accordance with provincial requirements.
- 5. For information on disposal of unused, unwanted product, contact the manufacturer

or provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

#### **PRODUCT INFORMATION**

SUTAN + 8-E is a selective herbicide which is mixed (incorporated) into the soil before planting for control of weeds listed on this label. SUTAN + 8-E controls annual grasses as their seeds germinate by interfering with normal germination and seedling development. SUTAN + 8-E does not control established weeds. All weed growth and crop stubble should be thoroughly worked into the soil before treatment.

#### NOTICE TO USER

This control product is to be used only in accordance with the directions on this label. It is an offense under the Pest Control Products Act to use a control product under unsafe conditions.

#### **DIRECTIONS FOR USE**

Read all label directions before using.

Applied according to directions and under normal growing conditions, SUTAN + 8-E will not harm the treated crop. During germination and early stages of growth, extended periods of unusually cold and wet or hot and dry weather, insect or plant disease attack, the use of certain soil-applied systemic insecticides, improperly placed fertilizers or soil insecticides may create abnormal conditions that weaken crop seedlings. SUTAN + 8-E used under these abnormal conditions could result in crop injury.

When applied according to directions and when conditions exist for normal plant growth through the season, no harmful residues of SUTAN + 8-E should remain beyond harvest.

Make only one application per crop.

Do not use on milo or sorghum. Do not use on corn seed stock (Breeders, Foundation, or Increase).

SUTAN + 8-E is recommended for use on mineral soils only (soils containing less than 8% organic matter).

Do not tank mix SUTAN + 8-E with fertilizers unless the compatibility has been tested and proven to be satisfactory prior to use.

Do not contaminate irrigation water (used for crops other than corn) or water used for domestic purposes.

Do not graze, or cut for fodder, treated immature crops (In the case of corn, immature

means before ear emergence). There are not sufficient data available to support such use.

### DO NOT APPLY BY AIR.

## TANK MIX COMBINATIONS

# SUTAN + 8-E/Atrazine TANK MIX (Atrazine equals AATREX<sup>R</sup> NINE-O<sup>R</sup>, Atrazine 90-W, AATREX FL., Atrazine 500FL.)

SUTAN + 8-E may be used in combination with Atrazine to be applied and mixed into the soil before planting for weed control in corn. This combination will control a broader spectrum of weeds than will either material used alone.

## SUTAN + 8-E/BLADEX<sup>R</sup> TANK MIX (BLADEX equals BLADEX NINE-T or BLADEX liquid)

SUTAN + 8-E may be used in combination with BLADEX for weed control in corn. This combination will control a broader spectrum of weeds than will either of the products used alone. This combination may be applied as a tank mix, pre-plant and soil-incorporated.

See Appendix III for tank mix directions.

#### WEEDS CONTROLLED

SUTAN + 8-E will not control established weeds.

### TANK MIXES

	ALONE	Atrazine	BLADEX
Annual Grasses			
Barnyard Grass (Water	Y	Y	Υ
grass)			
Crab Grass	Υ	Y	Υ
Foxtails (Green and Yellow)	Υ	Y	Υ
Wild Oats	Ν	Y	Ν
Witch Grass	Υ	Y	Υ
Fall Panicum	Y	Y	Υ
Annual Broadleaf Weeds			
Smartweed	Ν	Y	Ν
Black Nightshade	Ν	N	Υ
Shepard's Purse	Ν	N	Υ
Lamb's-quarters	Ν	Y	Υ
Redroot Pigweed	Ν	Y	Ν
Purslane	Ν	Y	Υ
Ragweed	Ν	Y	Υ
Mustards	Ν	Y	Υ
Lady's-thumb	Ν	Y	Υ
Velvetleaf	Ν	Y	Ν
Volunteer Clover	Ν	Y	Ν
Wild Buckwheat	Ν	Y	Y
Perennial Weeds			
Yellow Nutsedge	Y	Y	Y

#### **APPLICATION RATES**

Existing stands of yellow nutsedge (nut grass) must be turned under and chopped up thoroughly before treatment. For all uses, cultivation is recommended in addition to SUTAN + 8-E, SUTAN + 8-E/Atrazine, or SUTAN + 8-E/BLADEX treatment in fields with moderate to heavy infestations of nutsedge (nut grass).

#### SUTAN + 8-E

**For control of annual grasses listed (except fall panicum):** Apply and incorporate 4.25 to 5.5 litres of SUTAN + 8-E per hectare.

**IN EASTERN CANADA AND B.C. ONLY: For control of annual grasses (including fall panicum) and yellow nutsedge (nut grass):** Apply and incorporate 5.5 to 8.5 litres of SUTAN + 8-E per hectare.

**Note:** Use the higher rates on medium (medium fine-textured silt loam, clay loam, etc.)

soils, fine (fine-textured clay) soils and for heavy infestations.

## SUTAN + 8-E/Atrazine

For control of annual grasses (except fall panicum) and annual broadleaf weeds (except velvetleaf): Apply and incorporate 4.25 to 5.5 litres of SUTAN + 8-E and 1.25 to 1.7\* kilograms of AATREX NINE-O, Atrazine 90-W or 2.25 to 3.0 litres of AATREX FL., Atrazine 500FL per hectare.

IN EASTERN CANADA AND B.C. ONLY: For control of annual grasses (including fall panicum), annual broadleaf weeds, (including velvetleaf) and yellow nutsedge (nut grass): Apply and incorporate 5.5 to 8.5 litres of SUTAN + 8-E and 1.25 to 1.7\* kilograms of AATREX NINE-O, Atrazine 90-W or 2.25 to 3.0 litres of AATREX FL., Atrazine 500FL. per hectare.

- **Note:** Use the higher SUTAN + 8-E rates on medium (medium fine-textured silt loam, clay loam, etc.) soils, fine (fine-textured clay) soils and for heavy nutsedge infestations.
- \* Use the higher rate of Atrazine on soils with over 5% organic matter.

FOLLOW ALL USE PRECAUTIONS AND WARNINGS THAT APPEAR ON THE ATRAZINE LABEL, AND ELSEWHERE ON THIS LABEL. AFTER TREATMENT WITH SUTAN + 8-E/ATRAZINE (90-W or 5-L) COMBINATION, DO NOT PLANT ANY CROP EXCEPT CORN UNTIL THE FOLLOWING YEAR OR INJURY MAY OCCUR.

#### SUTAN + 8-E/BLADEX

**For control of annual grasses (except fall panicum) and annual broadleaf weeds:** Apply and incorporate 4.25 to 5.5 litres of SUTAN + 8-E and 2.0\* to 2.4 kilograms of BLADEX NINE-T or 3.7\* to 4.7 litres of BLADEX Liquid per hectare.

**IN EASTERN CANADA AND B.C. ONLY: For control of annual grasses (including fall panicum), annual broadleaf weeds, and yellow nutsedge (nut grass):** Apply and incorporate 5.5 to 8.5 litres of SUTAN + 8-E and 2.O\* to 2.4 kilograms of BLADEX NINE-T, or 3.7\* to 4.7 litres of BLADEX Liquid per hectare.

- **Note:** Use the higher SUTAN + 8-E rates on medium (medium fine-textured silt loam, clay loam, etc.) soils, fine (fine-textured clay) soils and for heavy nutsedge infestations.
- \* BLADEX is not recommended for use on certain types of soils. Consult the BLADEX label for more specific recommended rates on different soils.

FOLLOW ALL USE PRECAUTIONS AND WARNINGS THAT APPEAR ON THE BLADEX LABEL, AND ELSEWHERE ON THIS LABEL.

## APPLICATION AND SOIL INCORPORATION DIRECTIONS

## **SPRAY Application AND Mechanical Incorporation**

Apply the recommended dosage in 100 to 500 litres of water per hectare (use the higher volume in arid areas) using a properly calibrated, low-pressure type nozzle (flood, fan or swirl chamber) on boom-type sprayer having good, but not excessive agitation. Check frequently during application to be sure nozzles are free from clogging and are delivering a uniform spray pattern. Read directions on Atrazine or BLADEX labels concerning nozzle and screen sizes.

The soil should be well-worked and dry enough to permit good soil mixing (incorporation).

See Appendix I for soil mixing (incorporation) before planting directions.

In irrigated areas, do not apply SUTAN + 8-E before pre-irrigation.

For all band applications, reduce dosage proportionately depending upon the row spacing and band width to be treated.

## FLUID FERTILIZER TANK MIX

SUTAN + 8-E, SUTAN + 8-E/Atrazine or SUTAN + 8-E/BLADEX combinations can be combined with fluid (solution, slurry or suspension) fertilizers for applications made before planting. However, the physical compatibility with these fluid fertilizers must be determined before combining in the spray tank. Even though found to be compatible, constant agitation is necessary to keep the SUTAN + 8-E, SUTAN + 8-E/Atrazine or SUTAN + 8-E/BLADEX evenly mixed with the fluid fertilizer during application.

Refer to **Appendix II** regarding the PROCEDURE FOR TESTING THE COMPATIBILITY OF SUTAN + 8-E, SUTAN + 8-E/Atrazine or SUTAN + 8-E/BLADEX with fluid fertilizers.

See Appendix III for tank mix directions.

## IMPREGNATION ON DRY BULK FERTILIZERS

Dry bulk fertilizers (except nitrate fertilizers) may be impregnated or coated with SUTAN + 8-E. Dry bulk fertilizers (except single super-phosphate, triple super-phosphate and nitrate fertilizers) may be impregnated or coated with SUTAN + 8-E/Atrazine or SUTAN + 8-E/BLADEX. However, uniform distribution of SUTAN + 8-E, SUTAN + 8-E/Atrazine or SUTAN + 8-E/BLADEX on fertilizer particles and uniform application are necessary to assure good results.

See Appendix IV for information and directions for impregnation and use for these

combinations.

## PLANTING

Do not plant seed deeper than 5 centimetres for an application made before planting. Seeding can be done immediately or it may be delayed up to 2 weeks. To avoid removing SUTAN + 8-E, SUTAN + 8-E/Atrazine or SUTAN + 8-E/BLADEX from the row (with loss of weed control in the row), do not move or shape soils after treatment, such as by planting in deep furrows. If it is necessary to work the soil following application and incorporation, but before planting, it should be shallow, i.e. no more than 1/2 the depth the herbicide was incorporated.

## CULTURAL PRACTICES FOLLOWING APPLICATION

SUTAN + 8-E is not persistent in the soil, and susceptible weeds germinating later during the growing season may not be controlled. Should weeds develop, a shallow cultivation or rotary hoeing will generally result in better weed control. When cultivating for any reason, it should be shallow, i.e. no more than 1/2 depth the herbicide was incorporated.

Under circumstances when a poor stand of corn is obtained after SUTAN + 8-E treatment (caused by flooding, disease, etc.) corn can be planted again without working the field.

## **NOTICE TO BUYER**

Seller's guarantee shall be limited to the terms set out on the label and subject thereto, the buyer assumes the risk to persons or property arising from the use or handling of this product and accepts the product on that condition.

SUTAN and SUTAN+ are registered trademarks of Zeneca Inc. AATREX and NINE-O are registered trademarks of Ciba-Geigy Canada Ltd. BLADEX is a registered trademark of Shell Canada Ltd.

## **APPENDIX I**

## SOIL MIXING (INCORPORATION) BEFORE PLANTING

Whenever possible, application and incorporation should be done in the same operation. If there must be a delay in incorporation of the SUTAN + 8-E when application and incorporation are done in separate operations, SUTAN + 8-E must be applied to a dry soil surface (dry to at least 1.25 centimetres deep and free from dew and incidental moisture). Under these circumstances, SUTAN + 8-E must be incorporated into the soil within 4 hours when applied in water or liquid fertilizer, or on the same day when impregnated on dry fertilizer, to prevent loss of the herbicide. Loss of weed control will result from any delay in incorporation if SUTAN + 8-E is applied to a moist soil surface.

**Important:** Thorough mixing of SUTAN + 8-E in the soil is necessary. The soil must be in good tilth and cross discing is recommended. Improper discing or poor tilth (large clods) may result in unsatisfactory control.

The following equipment is commonly used for soil mixing (incorporation) before planting. Always follow with Western Rolling Harrows.

TYPE OF EQUIPMENT	WORKING DEPTH	MINIMUM SPEED
S Tyne (Danish) Cultivator *	10-15 cm	8-13 km/hr
C Tyne Cultivator with overlapping sweeps *	10-15 cm	9.5+ km/hr
Tandem Disks (max 45cm spacing between disks) **	10-15 cm	6.5-9.5 km/hr
Power Driven Cultivator ***	5-7.5 cm	ANY

\* Recommended for lighter soils in good tilth only

- \*\* For more thorough mixing, (perennial weeds and in heavier soils) cross disk a second time at maximun 10 cm depth.
- \*\*\* For control of shallow, annual weeds only.

### APPENDIX II

## PROCEDURE FOR TESTING THE COMPATIBILITY OF SUTAN + 8-E OR SUTAN + 8-E/ATRAZINE OR SUTAN + 8-E/BLADEX WITH FLUID FERTILIZERS.

The following procedure is suggested for determining whether SUTAN + 8-E, SUTAN + 8-E/Atrazine or SUTAN + 8-E/BLADEX may be combined with a specific fluid fertilizer for spray tank application.

### **Materials Required:**

- 1. A. SUTAN + 8-E
  - B. or SUTAN + 8-E/Atrazine combination
  - C. or SUTAN + 8-E/BLADEX combination
- 2. Fluid fertilizer to be used.
- 3. Adjuvant for fertilizer tank mix: Complex\*, Sponto 168-D\*, Unite\* or equivalent. The adjuvant which provides the best emulsification depends on the specific fertilizer under consideration.
  - \* Complex, Kalo Laboratories Inc., Kansas City, Missouri; Sponto 168-D,Witco Chemical Company, Houston, Texas; Unite Hopkins Agricultural Chemical Company, Madison, Wisconsin.
- 4. Two one-litre, wide-mouth, glass jars with lid or stopper.
- 5. Graduated pipette or cylinder.
- 6. Measuring cup, 250 mL.

#### **Procedure:**

- 1. Pour 500 mL of the fluid fertilizer into each of the litre jars.
- 2. Add adjuvant to one of the jars and mix (see next rate table).
- 3. Add the SUTAN + 8-E, SUTAN + 8-E/Atrazine or SUTAN + 8-E/BLADEX combination to both jars (see next two rate tables).
- 4. Close both jars with lid or stopper and mix the contents by turning the jars upside down ten times.
- 5. Inspect the surface and body of the mixture:
  - A. Immediately after completing the jar inversions.
  - B. After allowing the jars to stand quietly for 30 minutes.
  - C. And then again after repeating the jar inversions.

A mixture may be incompatible if either of the following conditions is observed at any of the inspection periods:

- (1) An oil layer or large oil globules are seen at the surface of the mixture.
- (2) Clumps or aggregates are present.

If a uniform mix cannot be made, the mixture should not be used. If either mixture remains uniform for 30 minutes, the combination may be used. If the mixture with adjuvant stays mixed, but the mixture without adjuvant does not, be sure to use the adjuvant in the spray tank.

Should either mixture separate after 30 minutes, but remix readily and uniformly with 10 jar inversions, the mixture can be used if good agitation is maintained in the tank. If non dispersible oil, sludge or clumps of solids form, the mixture should not be used.

If the SUTAN + 8-E, SUTAN + 8-E/Atrazine or SUTAN + 8-E/BLADEX is incompatible with the fertilizer, carefully inspect the mixture containing the adjuvant. If this mixture is compatible, then the SUTAN + 8-E, SUTAN + 8-E/Atrazine or SUTAN + 8-E/BLADEX may be used with the fluid fertilizer provided that the adjuvant is added to the fluid fertilizer and thoroughly mixed before the herbicides are added. Add the adjuvant at a rate of 375 mL per 100 litres of fluid fertilizer. Minimize foaming by using moderate agitation.

If the mixtures with the adjuvant are also incompatible, they should not be used in the same tank with the fertilizer.

Litres of Fluid Fertilizer to be applied per Hectare	mL of SUTAN + 8-E** to be added to 500 mL of Fertilizer
100	25.0
150	17.0
200	12.5
250	10.0
300	8.5
400	6.5

#### Compatibility Test Table for SUTAN + 8-E and Adjuvant\* with the Fluid Fertilizer

- \* A typical adjuvant rate of use is 375 mL per 100L of fluid fertilizer. Two (2) millilitres of adjuvant should be added to 500 mL of fluid fertilizer in order to equal a rate of 375 mL per 100 litres.
- \*\* Based on a rate of 5 litres of SUTAN + 8-E per hectare in the fluid fertilizer volumes indicated. Adjust amount of pesticide proportionately to correspond with intended field rate (e.g. for field rate of 9.0 litres of SUTAN + 8-E in 250 litres fluid fertilizer per hectare, add 18 mL (9L/5L x 10mL) SUTAN + 8-E to each jar containing 500 mL of fluid fertilizer for compatibility testing purposes).

### Compatibility Test Table for SUTAN + 8-E/Atrazine and Adjuvant\* with Fluid Fertilizer

Litres of Fluid Fertilizer to be applied per	100	150	200	250	300	350	400
Hectare							
Millilitres of SUTAN + 8-E to be added to	25	17	12.5	10	8.5	7.5	6.5
500 mL of Fluid Fertilizer** plus one of							
the following							
Grams of AATREX NINE-O or Atrazine	7.5	5.0	4.0	3.0	2.5	2.5	2.0
90-W to be added to 500 mL of fluid							
Fertilizer***							
or							
Millilitres of AATREX FL or Atrazine 500	13.5	9.0	7.0	5.5	4.5	4.0	3.5
FL to be added to 500 mL of fluid							
Fertilizer****							

- \* A typical adjuvant rate of use is 375 mL per 100L of fluid fertilizer. Two (2) millilitres of adjuvant should be added to 500 mL of fluid fertilizer in order to equal a rate of 375 mL per 100 litres.
- \*\* Based on a rate of 5 litres of SUTAN + 8-E per hectare in the fluid fertilizer volumes indicated. Adjust amount of pesticide proportionately to correspond with intended field rate (e.g. for field rate of 9.0 litres of SUTAN + 8-E in 250 litres fluid fertilizer per hectare, add 18 mL (9L/5L x 10mL) SUTAN + 8-E to each jar containing 500 mL of fluid fertilizer for compatibility testing purposes).
- \*\*\* Based on a rate of 1.5 kg of AATREX NINE-O or Atrazine 90W per hectare in the fluid fertilizer volumes indicated. Adjust amount of pesticide proportionately to correspond with the intended field rate.
- \*\*\*\* Based on a rate of 2.7 litres of AATREX FL or Atrazine 500FL per hectare in the fluid fertilizer volumes indicated. Adjust amount of pesticide proportionately to correspond with the intended field rate.

Litres of Fluid Fertilizer to be applied per Hectare	100	150	200	250	300	350	400
Millilitres of SUTAN + 8-E to be added to 500 mL of Fluid Fertilizer**	25	17	12.5	10	8.5	7.5	6.5
Plus one of the following:							
Grams of BLADEX NINE-T to be added to 500mL of Fluid Fertilizer***	10	7.0	5.0	4.0	3.5	3.0	2.5
or							
Millilitres of BLADEX Liquid to be added to 500 mL of Fluid Fertilizer****	18.5	12.5	9.5	7.5	6.5	5.5	5.0

### Compatibility Test Table for SUTAN + 8-E/BLADEX and Adjuvant\* with Fluid Fertilizer

- \* A typical adjuvant rate of use is 375 mL per 100L of fluid fertilizer. Two (2) millilitres of adjuvant should be added to 500 mL of fluid fertilizer in order to equal a rate of 375 mL per 100 litres.
- \*\* Based on a rate of 5 litres of SUTAN + 8-E per hectare in the fluid fertilizer volumes indicated. Adjust amount of pesticide proportionately to correspond with intended field rate (e.g. for field rate of 9.0 litres of SUTAN + 8-E in 250 litres fluid fertilizer per hectare, add 18 mL (9L/5L x 10mL) SUTAN + 8-E to each jar containing 500 mL of fluid fertilizer for compatibility testing purposes).
- \*\*\* Based on a rate of 2.0 kg of BLADEX NINE-T per hectare in the fluid fertilizer volumes indicated. Adjust amount of pesticide proportionately to correspond with the intended field rate.
- \*\*\*\* Based on a rate of 3.7 litres of BLADEX Liquid per hectare in the fluid fertilizer volumes indicated. Adjust amount of pesticide proportionately to correspond with the intended field rate.

## **APPENDIX III**

### TANK MIX DIRECTIONS

Sufficient jet or mechanical agitation should be provided during the filling operation and during application.

- 1) Fill the spray tank at least 2/3 full of appropriate carrier. Be sure tank is clean and not contaminated with 2,4-D, oil residue or other materials.
- 2) Start agitation and continue moderate agitation throughout mixing.
- 3) Premix the BLADEX or Atrazine making sure it is thoroughly wetted and dispersed in the tank prior to adding SUTAN + 8-E.
- 4) Add the SUTAN + 8-E to the tank 2/3 full of carrier already mixed with BLADEX or Atrazine.
- 5) Complete filling the remaining portion of the tank with carrier, mix thoroughly, maintain moderate agitation to provide a uniform mix during application.
- 6) The tank mix combination should not be left in the spray tank for a prolonged period, batches should be mixed and applied the same day. Do not allow the mixture to stand in the spray tank without agitation.

Do not use excessive agitation as it may cause the BLADEX or Atrazine to settle out and set up in the spray tank. All return lines to the tank must discharge below liquid level.

Use the same directions given for SUTAN + 8-E for application and incorporation of SUTAN + 8-E/Atrazine and SUTAN + 8-E/BLADEX tank mixes. Read all directions on the Atrazine and BLADEX labels concerning nozzle and screen sizes necessary for application of the tank mixes with SUTAN + 8-E.

#### **APPENDIX IV**

## IMPREGNATION ON DRY BULK FERTILIZERS

SUTAN + 8-E alone and in combination with Atrazine or BLADEX may be impregnated on many dry bulk fertilizers, tables (1) & (2), and applied and incorporated into the soil before planting for the control of certain grassy weeds by SUTAN + 8-E and many grassy and broadleaf weeds by the SUTAN + 8-E/Atrazine or SUTAN + 8-E/BLADEX combination in corn.

All SUTAN + 8-E, Atrazine and BLADEX label and supplementary literature instructions and precautions regarding rates per hectare, soil type and soil incorporation, application and other directions must be followed. Test results have shown that SUTAN + 8-E, SUTAN + 8-E plus Atrazine and SUTAN + 8-E plus BLADEX on many dry bulk fertilizers give weed control equal to SUTAN + 8-E or a tank mix of SUTAN + 8-E plus Atrazine or SUTAN + 8-E plus BLADEX applied as a spray in water or liquid fertilizer. However, uniform impregnation of the pesticides on the dry fertilizer particles and uniform application in the field are necessary to assure good results.

A minimum of 200 kilograms and a maximum of 500 kilograms of approved fertilizer ingredients, tables (1)&(2) impregnated with the appropriate amount of SUTAN + 8-E alone or in combination with Atrazine or BLADEX must be applied per hectare.

For impregnating the pesticides on dry fertilizers, use a closed rotary-drum type mixer equipped with suitable spraying equipment. The spray nozzles should be positioned inside of the mixer to provide uniform spray coverage of the tumbling fertilizer. The SUTAN + 8-E should be sprayed uniformly onto the fertilizer using a fine spray pattern. For the SUTAN + 8-E/Atrazine or SUTAN + 8-E/BLADEX combination product, the Atrazine or BLADEX can be added and mixed uniformly with the fertilizer prior to the SUTAN + 8-E addition, or alternatively, the SUTAN + 8-E and Atrazine or BLADEX can be mixed in the proper use ratio to prepare a uniform slurry for joint spray impregnation.

The physical properties of fertilizers vary, particularly in liquid absorptive capacity. When absorptivity is sufficient, simple spray impregnation of the fertilizer with SUTAN + 8-E provides a satisfactory dry mixture.

If the absorptive capacity is not adequate, use of a drying agent is required to provide dry, free-flowing mixtures.

For mixtures to be used in spinning-disc applicators, Microcel E calcium silicate powder (Manville, Filtration & Minerals) is recommended for use as a drying agent.

For mixtures to be used in pneumatic applicators, Microcel E or Agsorb 16/30 RVM-MS granular-clay (Oil-Dri Corporation) is recommended for use as a drying agent. The drying agent should be added separately and uniformly to the prepared pesticide-fertilizer mixture, in a quantity that is sufficient to provide a suitably free-flowing mixture.

Generally, less than 2% Microcel E or 5% Agsorb 16/30 RVM-MS by weight is required.

The amount of SUTAN + 8-E and Atrazine or BLADEX actually required in the manufacture of individual fertilizer mixtures should be determined carefully to ensure that the amounts actually contained in the mixture applied to the soil represent the correct rates of use.

All regulations relating to dry bulk fertilizer blending, registration, labelling and application are the responsibility of the individual and/or company selling the SUTAN + 8-E, SUTAN + 8-E/Atrazine or SUTAN + 8-E/BLADEX fertilizer mixtures.

#### Notes:

- Nitrate fertilizers represent a potential explosive hazard, particularly in contact with organic substances such as SUTAN + 8-E. Do not impregnate SUTAN + 8-E, SUTAN + 8-E/Atrazine or SUTAN + 8-E/BLADEX on ammonium nitrate. Do not use fertilizers containing ammonium, potassium, or sodium nitrate.
- 2. Do not combine SUTAN + 8-E plus Atrazine or BLADEX with single superphosphate (0-20-0) or triple super-phosphate (0-46-0).
- 3. Bulk fertilizers impregnated with SUTAN + 8-E or SUTAN + 8-E plus Atrazine or BLADEX should be **applied immediately NOT STORED**. All bulk containers should be tightly covered while the products are being transported and applied to reduce chances of SUTAN + 8-E loss via volatilization.

	Ν	Ρ	Κ
Ammonium Sulfate	21	0	0
Ammonium Phosphate-Sulfate	16	20	0
Diammonium Phosphate	18	46	0
Potassium Chloride	0	0	60
Potassium Sulfate	0	0	52
Single Super-phosphate	0	20	0
Triple Super-phosphate	0	46	0
Urea*	45	0	0

#### (1) RECOMMENDED DRY FERTILIZER INGREDIENTS FOR USE WITH SUTAN + 8-E

- \* Some ureas may be phytotoxic when high rates are applied to corn. Use only urea rates known to be safe for corn application.
- **NOTE:** Sul-Po-Mag, K-Mag and monoammonium phosphate have been shown to be compatible with SUTAN + 8-E and are recommended for use.

#### SUTAN + 8-E Physical Data

Product Density (20°C):	typically 946 grams/litre
Flashpoint:	92°C (Tagliabue closed cup)
Viscosity:	Sprayable down to -30°C

(2) R	ECOMME	NDED DR`	Y FERTIL	IZER	INGRE	DIENTS
FOR U	SE WITH S	SUTAN + 8	-E PLUS	ATRA	ZINE	or BLADEX
				_	1.4	

	Ν	Р	K
Ammonium Sulfate	21	0	0
Ammonium	16	20	0
Phosphate-Sulfate			
Diammonium	18	46	0
Phosphate			
Potassium Chloride	0	0	60
Potassium Sulfate	0	0	52
Urea*	45	0	0

- \* Some ureas maybe phytotoxic when high rates are applied to corn. Use only urea rates known to be safe for corn application.
- **Note:** Sul-Po-Mag, K-Mag and monoammonium phosphate have been shown to be compatible with SUTAN + 8-E plus AATREX NINE-O or Atrazine 90-W or SUTAN + 8-E plus BLADEX 80-W and are recommended for use.

Rate Chart for the Impregnation of 1,000 Kilograms of Dry Bulk
Fertilizers with SUTAN + 8-E or SUTAN + 8-E/Atrazine

Fertilizer Rate	SUTAN + 8-E			AATREX NINE-O Atrazine 90-W		AATREX FL Atrazine FL	
per Hectare		Rate/Hect	are	Rate/Hectare	Rate/Hectare		
	4.25 L Per ha	5.5 L Per ha	8.5 L Per ha	1.25 kg Per ha	1.7 kg Per ha	2.25 L Per ha	3.00 L Per ha
		Litres/1,000 kg Fertilizer		Kilograms/1,00	Kilograms/1,000 kg Fertilizer		Fertilizer
200 kg	21.3	27.5	42.5	6.25	8.5	11.25	15.0
250 kg	17.0	22.0	34.0	5.0	6.8	9.0	12.0
300 kg	14.2	18.3	28.3	4.2	5.7	7.5	10.0
350 kg	12.1	15.7	24.3	3.6	4.9	6.4	8.6
400 kg	10.6	13.8	21.3	3.1	4.3	5.6	7.5
450 kg	9.4	12.2	18.9	2.8	3.8	5.0	6.7
500 kg	8.5	11.0	17.0	2.5	3.4	4.5	6.0

#### Rate Chart for the Impregnation of 1,000 Kilograms of Dry Bulk Fertilizers with SUTAN + 8-E or SUTAN + 8-E/BLADEX

Fertilizer Rate	SUTAN + 8-E			BLADEX NINE-T		BLADEX Liquid	
per Hectare	Rate/Hectare			Rate/Hectare		Rate/Hectare	
	4.25 L Per ha	5.5 L Per ha	8.5 L Per ha	2.0 kg Per ha	2.4 kg Per ha	3.7 L Per ha	4.7 L Per ha
	Litres/1,000 kg Fertilizer		Kilograms/1,000 kg Fertilizer		Litres/1,000 kg Fertilizer		
200 kg	21.3	27.5	42.5	10.0	12.0	18.5	23.5
250 kg	17.0	22.0	34.0	8.0	9.6	14.8	18.8
300 kg	14.2	18.3	28.3	6.7	8.0	12.3	15.6
350 kg	12.1	15.7	24.3	5.8	6.8	10.6	13.4
400 kg	10.6	13.8	21.3	5.0	6.0	9.3	11.7
450 kg	9.4	12.2	18.9	4.4	5.3	8.2	10.4
500 kg	8.5	11.0	17.0	4.0	4.8	7.4	9.4

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