



Note Conditions of Sale  
and Warranty before  
opening the container.  
If they are not acceptable,  
return unopened product.

# Atrazine 4L

## Herbicide

Net  
Contents  
2 1/2 Gallons

For information, see the following  
to determine if there are other risks.

| ACTIVE INGREDIENTS                                 | BY WEIGHT    |
|--|--------------|
| Atrazine (2-chloro-4-ethyl-6-amino-1,3,5-triazine) | 47%          |
| Surfactant   | 1%           |
| Water  | 52%          |
| <b>INERT INGREDIENTS</b>                           | <b>TOTAL</b> |
|  | 100%         |

Contains 4.5 lbs. Atrazine (47% active ingredient) per gallon.

EPA Reg. No. 101-199

**KEEP OUT OF REACH OF CHILDREN**  
**CAUTION**

**STATEMENT OF PRACTICAL TREATMENT**  
**IF SWALLOWED:** Do not induce vomiting. Do not eat or drink until after medical attention has been sought.  
**IN CASE OF CONTACT:** Wash immediately with plenty of water. Get medical attention if irritation persists.  
**SEE SIDE PANEL FOR ADDITIONAL PRECAUTIONS.**

SHELL CHEMICAL COMPANY, A Division of Shell International Chemical Company, Ltd., Houston, Texas

### PRECAUTIONARY STATEMENTS

#### HAZARD TO HUMANS AND DOMESTIC ANIMALS - CAUTION

May be fatal if swallowed. May be absorbed through the skin. Avoid breathing vapors. Avoid contact with eyes, skin, or clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before reuse. For more information, call Shell Chemical Company, Shell International Chemical Company, Houston, Texas 77002.

#### ENVIRONMENTAL HAZARDS

Do not apply directly to lakes, ponds, or streams. Do not contaminate water by leaking of equipment or disposal of wastes. In case of spill, call Shell Chemical Company, Shell International Chemical Company, Houston, Texas 77002.

#### DIRECTIONS FOR USE

For a complete list of uses, see the label on the container. Read the label carefully and follow the directions on the label.

#### STORAGE AND DISPOSAL

**STORAGE:** Do not contaminate water, food, or feed by storage or disposal. Store in original container. Do not store in the home environment.  
**PESTICIDE DISPOSAL:** Pesticide sprays, mixtures, or residues that cannot be used according to label instructions must be disposed of according to federal, state, or local procedures.  
**CONTAINER DISPOSAL:** Destroy or reuse containers. Do not reuse for any purpose. Destroy containers according to approved federal, state, or local procedures. Do not burn containers. See any label for more information. For more information, call Shell Chemical Company, Shell International Chemical Company, Houston, Texas 77002.



Shell

Note Conditions of Sale  
and Warranty before  
opening the container.  
If they are not acceptable,  
return unopened product.

# Atrazine 4L

Herbicide

Net  
Contents  
2 1/2 Gallons

For seasonal weed control in corn,  
sorghum, and certain other crops.

| ACTIVE INGREDIENTS  | BY WEIGHT     |
|---|---------------|
| Atrazine (2-chloro-4-ethylamino-6-ethylpyrimidin-5(1H)-one) | 40.0%         |
| Pesticide Inert Ingredients                                 | 2.0%          |
| <b>INERT INGREDIENTS</b>                                    | <b>57.0%</b>  |
| <b>TOTAL</b>  | <b>100.0%</b> |

Contains 4 lbs. Active Ingredients per Gallon.  
EPA Reg. No. 227-109 EPA Est. No. 227-109-1

KEEP OUT OF REACH OF CHILDREN

### CAUTION

#### STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED: Drink plenty of water immediately and seek medical attention if necessary.  
IF ON SKIN: Wash immediately with plenty of water.  
IF IN EYES: Flush immediately with plenty of water. Get medical attention if irritation persists.  
SEE PAGE 3 FOR ADDITIONAL PRECAUTIONS.

THE CHEMICAL COMPANY, A Division of Shell International Chemical Company  
P.O. Box 1000, Houston, Texas 77001

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**PRECAUTIONARY STATEMENTS  
 HAZARD TO HUMANS AND DOMESTIC ANIMALS—CAUTION**

May be fatal if swallowed. Harmful if absorbed through the skin. Avoid breathing vapors or spray mist. Avoid contact with eyes, skin or clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before reuse. For 24-hour emergency medical assistance, call 713/475-9461.

**ENVIRONMENTAL HAZARDS**

Do not apply directly to lakes, ponds or streams. Do not contaminate water by cleaning of equipment or disposal of wastes. In case of significant spill, call 713/475-9461 or CHEMTREC 800/424-9300.

**DIRECTIONS FOR USE**

Use in strict accordance with Federal law. Do not use this product in a manner inconsistent with its labeling.

**STORAGE AND DISPOSAL**

**STORAGE:** Do not contaminate water, food, or feed by storage or disposal. Do not use or store around the home environment.  
**PESTICIDE DISPOSAL:** Pesticide spray mixture or residue that cannot be used according to label instructions must be disposed of according to federal, state or local procedures.  
**CONTAINER DISPOSAL:** Destroy used containers. Do not reuse for any purpose. Destroy containers according to approved federal, state or local procedures. Dispose of containers in sanitary landfill, if by incineration, if permitted by state and local authorities. If buried, keep out of sight.

## GENERAL INFORMATION

Atrazine 4L herbicide controls many annual broadleaf and grass weeds in corn and sorghum including barnyardgrass, wildgrain, *Panicum capillare*, yellow foxtail, green foxtail, wild oats, hairy, the vibratory, big plant foxtail, velvetleaf, morningglory, lambsquarters, pigweed, ragweed, nightshade, cutleaf, and mustard. Atrazine 4L may be applied before or after weeds emerge.

Apply at the rates given in the label for pre- or post-emergence. Use lower rates on light soils and low organic matter soils; use higher rates on heavy soils and high organic matter soils.

Atrazine 4L acts mainly through root absorption. Soil aeration is needed to move it into the soil zone. Should weeds develop and slow cultivation or rotary hoeing will generally result in better weed control.

Avoid using Atrazine 4L near adjacent desirable trees, shrubs, or plants or injury may occur.

Atrazine 4L is non-flammable.

## APPLICATION PROCEDURES

Atrazine 4L, a liquid formulation, should be mixed with water or liquid fertilizer and applied as a spray. Pour Atrazine 4L into the tank during or after filling. Hydraulic or mechanical agitation is recommended during mixing and application to keep the material in suspension. Air return lines to the tank must discharge below liquid level and agitation should not be so violent as to cause air bubbles to form in the liquid. Wash sprayer thoroughly after use.

### Ground Application

Apply Atrazine 4L 1.5-4.0 gallons of water per acre to assure even coverage unless otherwise specified. For uniform distribution use 80 flat fan type nozzles. Screens on nozzles, as well as those on suction and inline strainers, should be no finer than 50-mesh. Use a minimum of 10 gal. of water per acre for all post-emergence applications combined with 1% surfactant.

Use a suitable pump with capacity to deliver the necessary volume to the nozzles at 25-40 psi and at a rate that will keep the material in suspension in the spray tank.

For band applications, calculate amount to be applied per acre as follows:

| Band Width<br>Inches | Broad Cast<br>Rate<br>per acre | Air Flow<br>Needed<br>Per acre<br>of field |
|----------------------|--------------------------------|--|
| Row Width<br>inches  |                                |  |

### Aerial Application

Use the following formula to determine the amount of Atrazine 4L to be applied per acre. For example, if the sprayer is set to deliver 100 gal. of water per acre (100 gpa) and the desired rate is 1.5 lbs. of Atrazine 4L per acre, the amount of Atrazine 4L to be applied per acre is 1.5 lbs. divided by 100 gpa, which equals 0.015 lbs. per gallon of water. If the sprayer is set to deliver 150 gpa, the amount of Atrazine 4L to be applied per acre is 1.5 lbs. divided by 150 gpa, which equals 0.01 lbs. per gallon of water. The amount of Atrazine 4L to be applied per acre is the amount of Atrazine 4L to be applied per gallon of water multiplied by the number of gallons of water to be applied per acre.

### Application in Liquid Fertilizer

Atrazine 4L is not recommended for use in liquid fertilizer. If used, it may reduce the efficiency of the fertilizer. Do not apply Atrazine 4L in liquid fertilizer after emergence. Do not apply Atrazine 4L in liquid fertilizer after emergence if there is a danger of frost. Do not apply Atrazine 4L in liquid fertilizer if there is a danger of frost. Do not apply Atrazine 4L in liquid fertilizer if there is a danger of frost. Do not apply Atrazine 4L in liquid fertilizer if there is a danger of frost.

A. Add one pint of Atrazine 4L to the fertilizer tank. Mark the tank with "A" and the other tank with "B".

B. To the tank marked with "A" add a teaspoon of a surfactant. Mix thoroughly for 5 to 10 seconds to mix the Atrazine 4L with the surfactant.

To determine the number of gallons of herbicide to be applied, multiply the number of lbs. per acre of Atrazine 4L to be applied, divided by the gallons per acre of liquid fertilizer to be applied. For example, if 1.5 lbs. per acre of Atrazine 4L are to be applied in 100 gallons of liquid fertilizer, the amount of Atrazine 4L to be applied is 1.5 lbs. divided by 100 gpa, which equals 0.015 lbs. per gallon of water. The amount of Atrazine 4L to be applied per acre is the amount of Atrazine 4L to be applied per gallon of water multiplied by the number of gallons of water to be applied per acre.

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If a test such as Jar Test indicates that emulsifiable oil or oil concentrates are compatible materials to be combined in the spray tank, it should be a guide in the selection of a herbicide or insecticide according to the label of the herbicides or pesticides involved.

| JAR TEST FOR ATRAZINE 4L<br>COMPATIBILITY WITH LIQUID FERTILIZER |    |    |    |    |    |
|--|----|----|----|----|----|
| Part Liquid Fert. Active   | 10 | 15 | 20 | 30 | 40 |
| Tea spoon Atrazine 4L  |    |    |    |    |    |
| Part of Fertilizer   | 2  | 1  | 1  | 1  | 1  |

#### Application in Water Plus Emulsifiable Oil or Oil Concentrate

The addition of oil to Atrazine 4L in water spray may reduce the activity of Atrazine 4L and provide quicker kill of weeds. However, under certain conditions, the use of oil may seriously damage crops. To minimize the possibility of damage, follow the directions, procedures and precautions given below.

Use a crop oil containing at least 1% suitable emulsifier or a crop oil concentrate containing not more than 20% emulsifier. The emulsifier used designated for use with Atrazine. Emulsifiable oil or oil concentrate contaminated with water or other materials can cause compatibility problems and/or droppiness.

#### Mixing Procedures — all uses

(1) Thoroughly clean sprayer prior to use. Do not use sprayer contaminated with 2,4-D or other materials as crop damage or sprayer clogging may result. (2) Fill spray tank with water, allowing for the addition of the Atrazine 4L. (3) With the agitation system in operation, add the Atrazine 4L. (4) Add the emulsifiable oil or oil concentrate last. (5) Empty the tank as completely as possible before refilling to prevent a buildup of oil in the tank. Keep the agitation system in operation to avoid a separation of the oil from the water in the spray system. (6) Store remaining in the tank. (7) If a oil film starts to build up in the tank, drain the tank and clean out with a strong detergent solution or solvent. (8) Clean the sprayer thoroughly immediately after use by flushing the system with water containing a detergent. (9) All return lines to the tank must discharge below liquid level.

#### Precautions for Applications with Emulsifiable Oil or Oil Concentrate in Water

1. Do not use Atrazine 4L in water when corn, sorghum, sugarbeet, or other crops are present. 2. Do not use Atrazine 4L in water when weather, poor fertility, or other factors are likely to cause crop stress. 3. Do not use Atrazine 4L in water when the soil is very dry or when the soil is very wet. 4. Do not use Atrazine 4L in water when the soil is very sandy or when the soil is very clayey. 5. Do not use Atrazine 4L in water when the soil is very acidic or when the soil is very alkaline. 6. Do not use Atrazine 4L in water when the soil is very low in phosphorus or when the soil is very low in potassium. 7. Do not use Atrazine 4L in water when the soil is very low in nitrogen. 8. Do not use Atrazine 4L in water when the soil is very low in calcium or when the soil is very low in magnesium. 9. Do not use Atrazine 4L in water when the soil is very low in sulfur. 10. Do not use Atrazine 4L in water when the soil is very low in boron. 11. Do not use Atrazine 4L in water when the soil is very low in zinc. 12. Do not use Atrazine 4L in water when the soil is very low in manganese. 13. Do not use Atrazine 4L in water when the soil is very low in iron. 14. Do not use Atrazine 4L in water when the soil is very low in copper. 15. Do not use Atrazine 4L in water when the soil is very low in molybdenum. 16. Do not use Atrazine 4L in water when the soil is very low in selenium. 17. Do not use Atrazine 4L in water when the soil is very low in chlorine. 18. Do not use Atrazine 4L in water when the soil is very low in silicon. 19. Do not use Atrazine 4L in water when the soil is very low in vanadium. 20. Do not use Atrazine 4L in water when the soil is very low in cobalt. 21. Do not use Atrazine 4L in water when the soil is very low in nickel. 22. Do not use Atrazine 4L in water when the soil is very low in bromine. 23. Do not use Atrazine 4L in water when the soil is very low in iodine. 24. Do not use Atrazine 4L in water when the soil is very low in strontium. 25. Do not use Atrazine 4L in water when the soil is very low in yttrium. 26. Do not use Atrazine 4L in water when the soil is very low in zirconium. 27. Do not use Atrazine 4L in water when the soil is very low in niobium. 28. Do not use Atrazine 4L in water when the soil is very low in hafnium. 29. Do not use Atrazine 4L in water when the soil is very low in tantalum. 30. Do not use Atrazine 4L in water when the soil is very low in tungsten. 31. Do not use Atrazine 4L in water when the soil is very low in rhenium. 32. Do not use Atrazine 4L in water when the soil is very low in osmium. 33. Do not use Atrazine 4L in water when the soil is very low in iridium. 34. Do not use Atrazine 4L in water when the soil is very low in platinum. 35. Do not use Atrazine 4L in water when the soil is very low in gold. 36. Do not use Atrazine 4L in water when the soil is very low in silver. 37. Do not use Atrazine 4L in water when the soil is very low in cadmium. 38. Do not use Atrazine 4L in water when the soil is very low in mercury. 39. Do not use Atrazine 4L in water when the soil is very low in thallium. 40. Do not use Atrazine 4L in water when the soil is very low in lead. 41. Do not use Atrazine 4L in water when the soil is very low in bismuth. 42. Do not use Atrazine 4L in water when the soil is very low in antimony. 43. Do not use Atrazine 4L in water when the soil is very low in arsenic. 44. Do not use Atrazine 4L in water when the soil is very low in selenium. 45. Do not use Atrazine 4L in water when the soil is very low in tellurium. 46. Do not use Atrazine 4L in water when the soil is very low in polonium. 47. Do not use Atrazine 4L in water when the soil is very low in astatine. 48. Do not use Atrazine 4L in water when the soil is very low in francium. 49. Do not use Atrazine 4L in water when the soil is very low in radium. 50. Do not use Atrazine 4L in water when the soil is very low in actinium. 51. Do not use Atrazine 4L in water when the soil is very low in thorium. 52. Do not use Atrazine 4L in water when the soil is very low in protactinium. 53. Do not use Atrazine 4L in water when the soil is very low in uranium. 54. Do not use Atrazine 4L in water when the soil is very low in neptunium. 55. Do not use Atrazine 4L in water when the soil is very low in plutonium. 56. Do not use Atrazine 4L in water when the soil is very low in americium. 57. Do not use Atrazine 4L in water when the soil is very low in curium. 58. Do not use Atrazine 4L in water when the soil is very low in berkelium. 59. Do not use Atrazine 4L in water when the soil is very low in californium. 60. Do not use Atrazine 4L in water when the soil is very low in einsteinium. 61. Do not use Atrazine 4L in water when the soil is very low in fermium. 62. Do not use Atrazine 4L in water when the soil is very low in mendelevium. 63. Do not use Atrazine 4L in water when the soil is very low in nobelium. 64. Do not use Atrazine 4L in water when the soil is very low in lawrencium. 65. Do not use Atrazine 4L in water when the soil is very low in roentgenium. 66. Do not use Atrazine 4L in water when the soil is very low in darmstadtium. 67. Do not use Atrazine 4L in water when the soil is very low in tennessine. 68. Do not use Atrazine 4L in water when the soil is very low in oganesson.

#### CORN

Atrazine 4L may be applied either before planting or at planting or after planting at the rate indicated below.

#### Preplant

Broadcast in the spring after plowing at the rate indicated in Table 1, Page 5. Apply before planting or after final seedbed preparation. If soil is tilled or worked after application, all seed in contact with Atrazine 4L must have been obtained when Atrazine 4L is applied within two weeks prior to planting.

#### Preemergence

Apply before planting shortly after planting prior to weed emergence at the rate indicated in Table 1, Page 5.

#### Postemergence

Apply before weeds are well established at the rate indicated in Table 1, Page 5.

**TABLE 1  
BROADLEAF AND GRASS WEED CONTROL IN CORN\***

| Soil Texture  | Rate Per Acre of Atrazine 4L Broadcast Rate/Acre |
|---|--|
| <b>COARSE soils</b><br>Sand, loamy sands and sandy loams  | 4 pints  |
| <b>MEDIUM soils</b><br>Silt and clay loams that are low in organic matter   | 4.75 pints                                       |
| <b>FINE soils</b><br>Silt and clay loams with medium to high organic matter and clays   | 6 pints  |
| Peats, mucks and high organic clays (Apply postemergence only)  | 6 pints  |
| *Broadleaf weed control (eastern CO, western KS, western NE, NM, OK, Pan Handle, west TX, and eastern WY). On sand, loamy sand, sandy loam, mild to strongly alkaline soil and all recent leveled soil; apply 2.4 pt. per acre, either preplant or preemergence. Controls many broadleaf weeds including pigweed, lambsquarters, nightshade, purslane, and Kochia. On other soil types in these areas, apply rate in Table 1 for broadleaf and grass control. |  |

**Lay-by Treatment (Broadleaf and grass control)**

Broadcast 2.4 pt. per acre in a minimum of 5 gals. of water or nitrogen solution, before weeds are 1.5 inches high and corn is 20-30 inches high. When using nitrogen solutions, direct the spray to the lower 4 inches of cornstalks to avoid corn foliage injury. Maintain agitation in spray tank during application.

**Postemergence with Emulsifiable Oil or Oil Concentrate in Water**

**Broadleaf and Grass Control**

**Ground Application**

Broadcast 4 pts. of Atrazine 4L in 40 gal. of water per acre. Apply before weeds reach 1.5 inches in height.

**Aerial Application**

Broadcast 4 pts. of Atrazine 4L in 40 gal. of water per acre. Apply before weeds reach 1.5 inches in height.

**Broadleaf Control**

Broadcast 2.4 pt. per acre in a minimum of 5 gals. of water or nitrogen solution, before weeds are 1.5 inches high and corn is 20-30 inches high. When using nitrogen solutions, direct the spray to the lower 4 inches of cornstalks to avoid corn foliage injury. Maintain agitation in spray tank during application.

**Center Pivot Sprinkler Application - Preemergence or Postemergence (CO, KS, NE, SD, and WY)**

Apply with irrigation water, either planting before corn and weeds emerge or after corn emergence but before July 20-30, 1980, and before weeds exceed 1.5 inches in height at rates in Table 1. Prepare mixture with minimum ratio of 1 gal. product to 1 part water, or with a larger volume of water if the spray product will assure more accurate calibration of metering equipment. Maintain the correct ratio of product to water to reduce weed control. Apply only after irrigation water during entire period. Apply 1.5 inch of water; use the lower volume of water for textured soils. Metering equipment should be calibrated before use. Maintain agitation in spray tank during application.

**Precautions**

(1) Apply only through irrigation systems containing anti-siphon and check valves to prevent contamination of well during shut-down and overflow of solution tank. (2) Do not use if rain is expected in the next 24 hours. (3) Do not use if rain is expected in the next 24 hours. (4) Application when drift is likely to occur should be avoided. (5) Do not apply to corn plants less than 20 inches high. (6) Do not apply to corn plants less than 20 inches high. (7) Do not apply to corn plants less than 20 inches high.

(8) Do not apply to corn plants less than 20 inches high. (9) Do not apply to corn plants less than 20 inches high. (10) Do not apply to corn plants less than 20 inches high. (11) Do not apply to corn plants less than 20 inches high. (12) Do not apply to corn plants less than 20 inches high. (13) Do not apply to corn plants less than 20 inches high. (14) Do not apply to corn plants less than 20 inches high. (15) Do not apply to corn plants less than 20 inches high. (16) Do not apply to corn plants less than 20 inches high. (17) Do not apply to corn plants less than 20 inches high. (18) Do not apply to corn plants less than 20 inches high. (19) Do not apply to corn plants less than 20 inches high. (20) Do not apply to corn plants less than 20 inches high.

**Problem Weeds**

For a complete list of weeds controlled by Atrazine 4L, see the label. For a complete list of weeds controlled by Atrazine 4L, see the label. For a complete list of weeds controlled by Atrazine 4L, see the label.

1. Broadcast 4 lb per acre of ...  
 2. Broadcast 4 lb per acre of ...  
 3. Broadcast 4 lb per acre of ...  
 4. Broadcast 4 lb per acre of ...  
 5. Broadcast 4 lb per acre of ...  
 6. Broadcast 4 lb per acre of ...  
 NOTE: ...  
 Quackgrass Control on Land Going into Corn Production  
 ...  
 ...  
 ...

**TANK MIXTURES ON CORN**

TABLE  
 ...  
 ...  
 ...  
 ...  
 ...  
 ...  
 ...

TABLE 2  
TANK MIXTURES WITH LASSO ON CORN

| Soil Texture          | Broadcast Rate, Acre        |                           |                             |                           |
|-----------------------|-----------------------------|---------------------------|-----------------------------|---------------------------|
|                       | Less than 3% Organic Matter | 3% or more Organic Matter | Less than 3% Organic Matter | 3% or more Organic Matter |
|                       | ATRAZINE 4L                 | LASSO                     | ATRAZINE 4L                 | LASSO                     |
| Very Fine             | 3.2                         | 3.5                       | 4.0                         | 3.5                       |
| Very Fine to Fine     | 3.2                         | 3.5                       | 4.0                         | 3.5                       |
| Fine to Medium        | 3.2                         | 3.5                       | 4.0                         | 3.5                       |
| Medium to Coarse      | 3.2                         | 3.5                       | 4.0                         | 3.5                       |
| Coarse to Very Coarse | 3.2                         | 3.5                       | 4.0                         | 3.5                       |
| Very Coarse           | 3.2                         | 3.5                       | 4.0                         | 3.5                       |

Apply as a preemergence application. A tank mix of Atrazine 4L plus Lasso 3.5 or more organic matter, broadcasted in corn at the rate of 2.5 lbs. Atrazine 4L plus 2.5 lbs. Lasso broadcasted with corn for control of weeds and other broadleaf weeds. Do not apply this mixture to corn which is less than 3% organic matter. Do not apply this mixture to corn which is 3% or more organic matter. Do not apply this mixture to corn which is less than 3% organic matter. Do not apply this mixture to corn which is 3% or more organic matter.

**PRINCEP 60W or PRINCEP 4L (S-metolachlor)**  
Use as a tank mix for control of weeds and other broadleaf weeds in corn. Apply as a preemergence application. A tank mix of Princep 60W or Princep 4L plus Lasso broadcasted in corn for control of weeds and other broadleaf weeds. Do not apply this mixture to corn which is less than 3% organic matter. Do not apply this mixture to corn which is 3% or more organic matter.

**Preplant**  
Apply as a preemergence application. Apply as a preemergence application. Apply as a preemergence application. Apply as a preemergence application.



TABLE 2  
TANK MIXTURES WITH LASSO ON CORN

| Soil Texture   | Broadcast Rate Acre           |       |                              |       |
|--|-------------------------------|-------|------------------------------|-------|
|  | Less than 3<br>Organic Matter |       | 3% or more<br>Organic Matter |       |
|  | ATRAZINE 4L                   | LASSO | ATRAZINE 4L                  | LASSO |
| Very fine sand   | 1.0                           | 1.0   | 1.0                          | 1.0   |
| Very fine sand<br>with silts   | 1.0                           | 1.0   | 1.0                          | 1.0   |
| Very fine sand<br>with silts<br>and clays  | 1.0                           | 1.0   | 1.0                          | 1.0   |
| Very fine sand<br>with silts<br>and clays<br>and organic<br>matter   | 1.0                           | 1.0   | 1.0                          | 1.0   |
| Very fine sand<br>with silts<br>and clays<br>and organic<br>matter<br>and iron<br>oxide  | 1.0                           | 1.0   | 1.0                          | 1.0   |
| Very fine sand<br>with silts<br>and clays<br>and organic<br>matter<br>and iron<br>oxide<br>and aluminum<br>oxide   | 1.0                           | 1.0   | 1.0                          | 1.0   |
| Very fine sand<br>with silts<br>and clays<br>and organic<br>matter<br>and iron<br>oxide<br>and aluminum<br>oxide<br>and manganese<br>oxide   | 1.0                           | 1.0   | 1.0                          | 1.0   |
| Very fine sand<br>with silts<br>and clays<br>and organic<br>matter<br>and iron<br>oxide<br>and aluminum<br>oxide<br>and manganese<br>oxide<br>and copper<br>oxide                      | 1.0                           | 1.0   | 1.0                          | 1.0   |
| Very fine sand<br>with silts<br>and clays<br>and organic<br>matter<br>and iron<br>oxide<br>and aluminum<br>oxide<br>and manganese<br>oxide<br>and copper<br>oxide<br>and zinc<br>oxide | 1.0                           | 1.0   | 1.0                          | 1.0   |

PRINCIPLE OF PRINCIPAL COMPONENTS ANALYSIS (PCA) is a statistical technique used to reduce the dimensionality of a dataset while retaining most of the information contained in the data. This is achieved by transforming the original variables into a new set of variables, the principal components, which are uncorrelated and ordered by their variance. The first few principal components capture the most variation in the data, while the remaining components capture less and less variation. This technique is useful for data visualization, noise reduction, and feature selection.

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**PRECAUTIONS FOR ALL APPLICATIONS TO CORN**

1. Do not apply to corn planted in the fall or to corn (2) and treated with Atrazine 4. Atrazine 4 should be applied to corn or sorghum only the following year. Corn may be planted in any crop other than corn or sorghum the following year following treatment with Atrazine 4. If Atrazine 4 is applied to the moldboard or disc plow area, the corn should be planted as soon as possible in the fall or the following spring. The rate used is 5.0 lb/a. In the possibility of injury to spring-seeded crops, the rate of Atrazine 4 should be reduced to 2.5 lb/a. Atrazine 4 should be applied to corn or sorghum only when the soil is moist. Atrazine 4 should not be applied to corn or sorghum if the soil is dry. Corn should be treated with methidathion (ENIGER or EXOR) only if there is a chance of injury. If Atrazine 4 is applied to corn or sorghum with crops other than corn or sorghum, the rate should be reduced to 2.5 lb/a. Atrazine 4 should not be applied to corn or sorghum if the soil is dry and erratic where irrigation is required. Atrazine 4 should not be applied to corn or sorghum if there are pre-existing weeds in corn or sorghum. Do not apply to corn or sorghum if there is a crop of untreated corn or sorghum in the field. Do not apply to corn or sorghum if there is a crop of untreated corn or sorghum in the field. Do not graze treated area or feed treated to animals. Do not use following application.

**SORGHUM AND SORGHUM—SUDAN HYBRIDS  
(Grain and Forage Types)**

Apply before planting, at planting, or after planting. See label for weeds controlled.

**Preplant (Broadleaf and Grass Control)**  
Broadcast in spring after plowing or after Atrazine 4 application. After final seedbed preparation, if the soil is not worked, the application of Atrazine 4 should be made. Do not apply to corn or sorghum if the soil is dry.

**Preemergence (Broadleaf and Grass Control)**  
Apply during or shortly after planting. Do not use emergence at rate in Table 4.

**TABLE 4  
PREPLANT AND PREEMERGENCE BROADLEAF AND GRASS WEED CONTROL IN SORGHUM\***

| Soil Texture                | Organic Matter | Broadcast Rate/Acre |
|-----------------------------|----------------|---------------------|
| <b>COARSE</b>               |                | Do not use          |
| Sand loam, sand, sandy loam |                | 4.0 lb/a            |
| <b>MEDIUM and FINE</b>      |                | Do not use          |
| Silt loam, clay loam        |                | 4.0 lb/a            |
| Clay                        |                | 4.0 lb/a            |
|                             | more than 1%   | 4.475 lb/a          |

\*Do not apply preplant in AL, AR, FL, GA, LA, MS, NC, NM, SC, TN or TX.  
Do not apply preemergence in NM, OK, or TX, except in northeast LA and the TX G.I.C. zone.

Do not apply preplant to corn or sorghum if there are pre-existing weeds in corn or sorghum. Do not apply preplant to corn or sorghum if there are pre-existing weeds in corn or sorghum. Do not apply preplant to corn or sorghum if there are pre-existing weeds in corn or sorghum. Do not apply preplant to corn or sorghum if there are pre-existing weeds in corn or sorghum.

**Preemergence Broadleaf Control in Furrow Irrigated Bedded Sorghum (AZ and CA only)**

For preemergence control of many broadleaf weeds, including chickweed, lambquarters, morning glory, mustard, pigweed, and purslane, broadcast 1.6 to 4 pt per acre. Apply after bed preparation during or after planting but before sorghum emergence and before first furrow irrigation. Follow with recommended irrigation. Do not use low water rate irrigation treatments. Do not use water with a high salt content.

**Precautions for Preemergence Application to Furrow Irrigated Bedded Sorghum Grown in AZ and CA**

To avoid possible sorghum injury, do not use on sandy soils or on sorghum planted in the furrow. Applications to sandy soils or on alkali soils or where cuts, ditches or erosion have exposed alkali soil or alkali subsols may cause injury to sorghum plants in 8 paths following application. Do not use immediately.

**Postemergence (Broadleaf and grass control)**

Apply at rate in table below if weeds exceed 15 inches in height. Apply up to 1/2 acre in

| Soil Texture                            | Minimum Sorghum Height at Treatment                            | Broadcast Rate/Acre |
|---|--|---------------------|
| Sand or loamy sand                      |  | Do not use          |
| Sandy loam                              | See directions for postemergence broadcast weed control below. |                     |
| Silt loam to sandy clay loam            | Completely Emerged   | 4.4 to 6 pt         |
| Clay and Pullman clay soil              | At least 6 inches  | 4.4 to 6 pt         |
| Silty clay loam and finer textured soil | Completely Emerged   | 6 pt                |

**Postemergence Broadleaf Control with Emulsifiable Oil or Oil Concentrate in Water**  
Broadcast 4.4 to 6 pt per acre for control of many broadleaf weeds including chickweed, lambquarters, morning glory, mustard, pigweed, and purslane. Apply before sorghum emergence and before first furrow irrigation. Do not use low water rate irrigation treatments. Do not use water with a high salt content. Do not use in the western KS, NM, OK, TX and desert regions of AZ and CA. Apply with sorghum 5 to 10 inches in height for best results. Apply 1/2 acre in 8 paths following irrigation. Do not use immediately after application. Do not use on sandy soils or on sorghum planted in the furrow. Applications to sandy soils or on alkali soils or where cuts, ditches or erosion have exposed alkali soil or alkali subsols may cause injury to sorghum plants in 8 paths following application. Do not use immediately.

**Precautions for Applications with Emulsifiable Oil or Oil Concentrate in Water**

Do not use on sandy soils or on sorghum planted in the furrow. Applications to sandy soils or on alkali soils or where cuts, ditches or erosion have exposed alkali soil or alkali subsols may cause injury to sorghum plants in 8 paths following application. Do not use immediately.

**Precautions for Applications with Surfactant (CO, Western KS, NM, OK, TX and Desert Regions of AZ and CA only)**

Broadcast 4.4 to 6 pt plus 0.75 to 1.5 pt of surfactant per acre after sorghum reaches 6 inches in height but before weeds reach 8 inches in height. Apply immediately after first furrow irrigation.

**Precautions for All Applications to Sorghum**

Do not use immediately following application on fertile soil unless severe corn or wheat injury is not a concern. Do not use on sandy soils or on sorghum planted in the furrow. Applications to sandy soils or on alkali soils or where cuts, ditches or erosion have exposed alkali soil or alkali subsols may cause injury to sorghum plants in 8 paths following application. Do not use immediately.

**Additional Precautions**

Do not use on sandy soils or on sorghum planted in the furrow. Applications to sandy soils or on alkali soils or where cuts, ditches or erosion have exposed alkali soil or alkali subsols may cause injury to sorghum plants in 8 paths following application. Do not use immediately.

## CHEMICAL FALLOW

### Wheat Sorghum Fallow

Atrazine 4, 2,4-D, and 2,4,5-T are effective against broadleaf weeds and grasses. Apply to the soil before planting sorghum. Atrazine 4, 2,4-D, and 2,4,5-T are effective against broadleaf weeds and grasses. Apply to the soil before planting sorghum.

**Precautions**  
Do not apply to soil with a pH below 6.0. Do not apply to soil with a pH above 8.0. Do not apply to soil with a pH between 6.0 and 8.0 if the soil is highly erodible. Do not apply to soil with a pH between 6.0 and 8.0 if the soil is highly erodible.

**NOTE:** Do not apply to soil with a pH below 6.0. Do not apply to soil with a pH above 8.0. Do not apply to soil with a pH between 6.0 and 8.0 if the soil is highly erodible. Do not apply to soil with a pH between 6.0 and 8.0 if the soil is highly erodible.

### Wheat Corn Fallow (KS, NE)

Atrazine 4, 2,4-D, and 2,4,5-T are effective against broadleaf weeds and grasses. Apply to the soil before planting corn. Atrazine 4, 2,4-D, and 2,4,5-T are effective against broadleaf weeds and grasses. Apply to the soil before planting corn.

**Precautions**  
Do not apply to soil with a pH below 6.0. Do not apply to soil with a pH above 8.0. Do not apply to soil with a pH between 6.0 and 8.0 if the soil is highly erodible. Do not apply to soil with a pH between 6.0 and 8.0 if the soil is highly erodible.

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**Wheat Fallow (CO, KS, MT, NE, ND, SD, and WI)**  
For preemergence control of weeds, apply Atrazine 4, 2,4-D, and 2,4,5-T to the soil before planting wheat. Atrazine 4, 2,4-D, and 2,4,5-T are effective against broadleaf weeds and grasses. Apply to the soil before planting wheat.

Atrazine 4, 2,4-D, and 2,4,5-T are effective against broadleaf weeds and grasses. Apply to the soil before planting wheat. Atrazine 4, 2,4-D, and 2,4,5-T are effective against broadleaf weeds and grasses. Apply to the soil before planting wheat.

**Precautions**  
Do not apply to soil with a pH below 6.0. Do not apply to soil with a pH above 8.0. Do not apply to soil with a pH between 6.0 and 8.0 if the soil is highly erodible. Do not apply to soil with a pH between 6.0 and 8.0 if the soil is highly erodible.

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## RANGELAND

Atrazine 4, 2,4-D, and 2,4,5-T are effective against broadleaf weeds and grasses. Apply to the soil before planting wheat. Atrazine 4, 2,4-D, and 2,4,5-T are effective against broadleaf weeds and grasses. Apply to the soil before planting wheat.

**Establishment of Perennial Range Grasses (CA, ID, MI, OR, UT, WA)**  
Apply Atrazine 4, 2,4-D, and 2,4,5-T to the soil before planting perennial range grasses. Atrazine 4, 2,4-D, and 2,4,5-T are effective against broadleaf weeds and grasses. Apply to the soil before planting perennial range grasses.

**Renovation of Existing Stands of Perennial Range Grasses**  
Apply Atrazine 4, 2,4-D, and 2,4,5-T to the soil before renovating existing stands of perennial range grasses. Atrazine 4, 2,4-D, and 2,4,5-T are effective against broadleaf weeds and grasses. Apply to the soil before renovating existing stands of perennial range grasses.

after planting. Do not apply more than 1.5 lb. per acre per year.

**West Coast, North, and West.** Do not plant in the first 30 months after application. Apply 1.5 lb. per acre per year in equipment that meets the product needs.

Bluegrass and intermediate wheatgrass may be controlled at recommended rates.

Do not spray in crested and intermediate wheatgrass, tall fescue, large grasses, etc. Do not cut or feed stock with weeds that have been treated with this herbicide.

**Warm Season Perennial Range Grasses — Midwest Switchgrass**  
Do not use in any annual broadleaf and grass weeds, including grass, foxtail, quackgrass, and velvetleaf. Do not use on alfalfa, red clover, and velvetleaf.

Apply 4.0 lb. per acre in a minimum of 15 gal. of water per acre. Apply in 100-micron nozzle spray. Do not use on alfalfa and clover with at least 10 percent organic matter.

**New Seeding**

Apply 4.0 lb. per acre after planting but before weeds emerge. Prepare a firm seedbed. Plant 25 lb. per acre with a grass and herbicide mixture or a pre-planting application. If a conventional disk is used on prepared seedbed, improve aeration of the disk opener. For best results, outpace the weeds that escape in July or August. Avoid applying switchgrass seedlings.

**Established Stands**

Apply 4.0 lb. per acre in April or early May, before weed emergence.

**Precautions**

See Precautions for application to corn in previous section. **NOTE:** Do not cut for hay. Do not graze treated areas within 30 days after application at seeding or 3 months following application to established switchgrass. Treat only once per year.

**SUGARCANE**

For control of many annual broadleaf and grass weeds, including amaranth, pigweed, green and yellow foxtail, and other weeds, and wiregrass. Broadcast 4.6 lbs. in 20-50 gal. of water for adequate coverage. If the soil surface is hard, apply in a slurry. Do not apply to the ground. Do not apply if it may be washed off the ground.

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**FORESTS AND CHRISTMAS TREE PLANTATIONS**

**Douglas Fir, Grand Fir, Noble Fir, White Fir, Lodgepole Pine, Ponderosa Pine and Scotch Pine**  
Annual broadleaf and grass weed control. Apply 4.0 lb. per acre in 15 gal. of water per acre. Apply in 100-micron nozzle spray. Do not use on alfalfa and clover with at least 10 percent organic matter.

**Upland Grass Control**

Apply 4.0 lb. per acre in April or early May, before weed emergence.

**Precautions**

See Precautions for application to corn in previous section. **NOTE:** Do not cut for hay. Do not graze treated areas within 30 days after application at seeding or 3 months following application to established switchgrass. Treat only once per year.

### CONDITIONS OF SALE AND WARRANTY

Shell and the seller offer this product and the information on this product only under the following guarantee. It is not a warranty of any kind. The directions for use of this product are printed on the label and should be followed carefully. However, the user should be aware of all variables and to eliminate all risks as far as possible. No damage may result because of conditions which are not mentioned on the label and are beyond the control of Shell or the seller, including soil, heat, irrigation, weather, presence of other materials, and the manner of use. Shell warrants only that this product conforms to the technical description on the label and is believed to be reasonably fit for the purposes set forth in the Directions for Use when used as directed. SHELL MAKES NO OTHER REPRESENTATION OR WARRANTY. NO MERCHANT, AGENT, OR ANY OTHER EXPERT, IN CONNECTION WITH THE SALE OF THIS PRODUCT, SHALL BE LIABLE FOR CONSEQUENTIAL OR INDIRECT DAMAGES, SUCH AS LOSS OF PROFITS, ARISING FROM THE USE OF THIS PRODUCT. Any variation or exception from this warranty must be in writing and signed by an authorized Shell representative.

BLADE® Herbicide is a registered trademark of Shell Chemicals Co.  
LASSO is a registered trademark of Monsanto Chemicals Co.  
PENCIP is a registered trademark of Shell Chemicals Co.  
X-TOL is a registered trademark of National Chemicals Co.  
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PERFORATIONS

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### PRECAUTIONARY STATEMENTS

#### HAZARD TO HUMANS AND DOMESTIC ANIMALS—CAUTION

May be fatal if swallowed. Harmful if absorbed through the skin. Avoid breathing vapors or spray mist. Avoid contact with eyes, skin or clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before reuse. For 24-hour emergency help, call 1-800-424-9500.

#### ENVIRONMENTAL HAZARDS

Do not apply directly to lakes, ponds or streams. Do not contaminate water by cleaning of equipment or disposal of wash water. In case of pollution, call 1-800-424-9500. CHEMTREC: 800-424-9500

#### DIRECTIONS FOR USE

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

#### STORAGE AND DISPOSAL

**STORAGE:** Do not contaminate water, food, or feed by storage or disposal. Do not store in plastic and do not use for any other purpose.  
**PESTICIDE DISPOSAL:** Pesticide spray mixture or residue that cannot be used, according to label instructions, must be disposed of according to federal, state or local procedures.  
**CONTAINER DISPOSAL:** Best by used containers; do not reuse for any purpose. Empty containers according to approved federal, state or local procedures. Dispose of containers in sanitary landfills by incineration if permitted by state and local authorities. If buried, keep out of smoke.