

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

APR - 5 1990

Linda C. Watson
 Consultant / Regulatory Affairs
 Oxon Italia S.p.A.
 Rt. One, Box 143-A
 Highway 122 / Banks Lake
 Lakeland, Georgia 31635

Dear Ms. Watson:

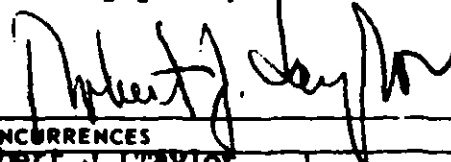
Subject: Atrazine 4L Herbicide
 EPA Reg. No. 35915-4
 Re: Atrazine Voluntary Exposure Reductions Measures
 Your Amendment Resubmission Dated March 20, 1990

The labeling referred to above, submitted in connection with the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable with the following comments:

1. On page 4 under section entitled FOR QUACKGRASS CONTROL ON LAND GOING INTO CORN PRODUCTION, revise specified application rates to conform with the 3 lb. ai per acre per year limit.
2. On page 4 under PROBLEM WEEDS #3, change the first sentence to read 3 pints of Atrazine per acre ... The current rate of 4 pints would exceed the 3 lbs. ai per acre limit if applied with a second application of 3 pints.
3. On page 4 under section entitled LAYBY TREATMENT (Broadleaf and Grass Weed Control), change the phrase "20 - 30 inches high" to "no higher than 1'".
4. On page 5 under Suggestions for Rotational Crops (appears in two places), delete instruction #3. There is no case where the 3 lb. ai per acre application rate should be exceeded in either corn or sorghum. This sentence may appear under instructions for crops (i.e. sugarcane) that do not carry the 3 lbs. ai per acre per year limit.

Please submit five (5) copies of your final printed labeling incorporating this amendment and above mentioned comments before you release the product for shipment. A stamped copy is enclosed for your records.

Sincerely yours,



CONCURRENCES			
SYMBOL	H7505C		Robert J. Taylor
SURNAME	Morm		Product Manager (25)
DATE	4/3/90		Fungicide-Herbicide Branch
			Registration Division (H7505C)

RESTRICTED USE PESTICIDE
(GROUND WATER CONCERNS)

FOR RETAIL SALE TO AND USE ONLY BY CERTIFIED APPLICATORS OR PERSONS UNDER THEIR DIRECT SUPERVISION, AND ONLY FOR THOSE USES COVERED BY THE CERTIFIED APPLICATOR'S CERTIFICATION.

THIS PRODUCT IS A RESTRICTED USE HERBICIDE DUE TO GROUND WATER CONCERNS. USERS MUST READ AND FOLLOW ALL PRECAUTIONARY STATEMENTS AND INSTRUCTIONS FOR USE IN ORDER TO MINIMIZE POTENTIAL FOR ATRAZINE TO REACH GROUND WATER.



ACCEPTED
with COMMENTS
in EPA Letter Dated:

ATRAZINE 4L

HERBICIDE

Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the herbicide
registered under EPA Reg. No.

35915-4

For season-long weed control in corn and sorghum, for weed control in certain other crops, in non-crop and industrial sites.

ACTIVE INGREDIENTS:

Atrazine (2-chloro-4-ethylamino-6-isopropylamino-s-triazine).....	40.8%
Related compounds.....	2.2%

INERT INGREDIENTS:.....	57.0%
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TOTAL.....	100.0%
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Atrazine 4L contains 4 lbs. active ingredients per gallon.

KEEP OUT OF REACH OF CHILDREN
CAUTION

See Side Panel For Additional Precautionary Statements
SHAKE WELL BEFORE USING

NET CONTENT: 2½ Gallons
9.45 Liters



MANUFACTURED FOR
OXON ITALIA S.p.A.
Via Sempione, 195 - 20016 PERO
MILANO - ITALY

EPA REG. NO. 35915-4
EPA EST. NO.

WORKER PROTECTION STATEMENT

Do not enter treated areas without protective clothing until sprays have dried. Because certain states may require more restrictive re-entry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.

Written or oral warnings must be given to workers who are expected to be in a treated area or in an area about to be treated with this product. (Indicate specific oral warnings which inform workers of areas or fields that may not be entered without specific protective clothing, period of time field must be vacated and the appropriate actions to take in case of accidental exposure). When oral warnings are given, warnings shall be given in a language customarily understood by workers. Oral warnings must be given if there is reason to believe that written warnings cannot be understood by workers. Written warnings must include the following information: **CAUTION** — Area treated with ATRAZINE on (date of application). Do not enter without appropriate protective clothing until sprays have dried. In case of accidental exposure treat as follows:

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful or fatal if swallowed. Causes moderate eye irritation. Do not get in eyes, on skin, or on clothing. Wear goggles. Harmful if swallowed, inhaled, or absorbed through the skin. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating. Remove contaminated clothing and wash before reuse. Do not apply this product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons.

Users are required to wear long sleeve shirts and long pants or equivalent, chemical resistant gloves, and boots (waterproofed). In addition, persons involved in mixing/loading operations are required to use chemical resistant rubber or neoprene gloves and a face shield or goggles.

STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED: Call a Physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

IF IN EYES: Immediately flush eyes with plenty of water. Get medical attention if irritation develops.

IF ON SKIN: Immediately flush skin with plenty of soap and water while removing contaminated clothing and shoes. If irritation develops, seek medical attention.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to aquatic invertebrates. Do not apply directly to water or wetlands. Runoff and drift from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment wash waters.

ATRAZINE can travel (seep or leach) through soil and can enter groundwater which may be used as drinking water. ATRAZINE has been found in groundwater. Users are advised not to apply ATRAZINE to sand and loamy sand soils where the water table (groundwater) is close to the surface and where these soils are very permeable, i.e., well-drained. Your local agricultural agencies can provide further information on the type of soil in your area and the location of groundwater.

GENERAL INFORMATION

ATRAZINE 4L herbicide will control most annual broadleaf and grass weeds in corn and sorghum such as barnyardgrass, witchgrass (*Panicum capillare*), yellow foxtail, green foxtail, wild oats, large (hairy) crabgrass, giant foxtail, velvetleaf, morning glory, lambsquarters, pigweed, ragweed, nightshade, purslane and mustard. ATRAZINE 4L may be applied before or after weeds emerge.

In each case where a range of rates is given, the lower rate should be used on light soils and soils low in organic matter, and the higher rate should be used on heavy, high in organic matter.

Since ATRAZINE 4L acts mainly through root absorption, its effectiveness depends on rainfall or irrigation to move it into the root zone. Should weeds develop, a shallow cultivation or rotary hoeing will generally result in better weed control.

ATRAZINE 4L is non-flammable.

Care should be taken to avoid using ATRAZINE 4L where adjacent desirable trees, shrubs or plants might be injured.

NOTE: The Seller does not recommend the use of ATRAZINE 4L in combination with other herbicides or oils except as specifically described on the label or in literature published by the Seller.

Ground water contamination may be reduced by diking and flooring of permanent liquid bulk storage sites with an impermeable material.

This product may not be mixed/loaded, or used within 50 feet of all wells including abandoned wells, drainage wells, and sink holes.

Do not apply this product through any type of irrigation system.

DIRECTIONS FOR USE

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

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APPLICATION PROCEDURES

GROUND APPLICATION: For the most uniform distribution of broadcast applications use 80° flat fan type nozzles. For band applications, use a fan nozzle. Screens and strainers should be no finer than 50 mesh. Use a pump with capacity to (1) provide sufficient hydraulic agitation during mixing and application to keep ATRAZINE 4L in suspension and (2) maintain 36-40 psi operating pressure. Use a minimum of 5 gallons of water per acre for preplant incorporated preemergence applications. Use a minimum of 10 gallons of water per acre for all postemergence applications combined with oil or surfactant.

FOR BAND APPLICATIONS, CALCULATE THE AMOUNT TO BE APPLIED PER ACRE AS FOLLOWS:

Band width in inches	x	Rate/A for broadcast treatment	=	Amount needed for band treatment
Row width in inches				

AERIAL APPLICATION: For preplant and preemergence broadcast treatments, apply at a 1:1 ratio of ATRAZINE 4L to water. (Example: If application calls for 1 quart of product and is mixed with 1 quart of water) to be applied per acre. For postemergence treatments, apply a minimum of 1 quart of ATRAZINE 4L or ATRAZINE 4L plus oil in a minimum of 2 gallons of water per acre. Avoid applications under conditions where uniform coverage cannot be obtained. Excessive drift may occur.

ATRAZINE 4L IN WATER APPLICATIONS: ATRAZINE 4L, a liquid formulation, should be mixed with water and applied as a spray. Pour ATRAZINE 4L into the tank during or after filling. Hydraulic (jet) or mechanical agitation is recommended during mixing and application. The agitator should be in operation. All return lines to the tank must discharge below liquid level and agitation should not be so violent as to cause air bubbles to form. Liquid splash may occur. Wash thoroughly after use.

ATRAZINE 4L IN LIQUID FERTILIZER APPLICATIONS: Nitrogen solutions and complete fertilizers may be mixed with ATRAZINE 4L or part of the water as a carrier for preemergence and preplant applications of ATRAZINE 4L. Mixing should be accomplished in a separate tank. Do not apply after corn or sorghum has emerged as there is danger of liquid fertilizers causing crop injury.

ATRAZINE 4L PLUS EMULSIFIABLE OIL IN WATER APPLICATIONS: Addition of oil to preemergence ATRAZINE 4L in water sprays may speed the activity of ATRAZINE 4L and provide quicker kill of weeds. However, under certain conditions, oil may cause damage corn or sorghum. To minimize the possibility of damage, follow the directions, procedures and precautions given below.

For combining with ATRAZINE 4L, use a crop oil designed for use with ATRAZINE 4L containing 1-2% suitable emulsifier. Several oils of this type are on the market. Oils contaminated with water or other material can cause compatibility problems and/or crop injury.

MIXING PROCEDURES: 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 half to two thirds full of clean water. 3) With the agitator system in operation, add the ATRAZINE 4L. 4) Add the emulsifiable oil 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 oil from the water mixture still remaining in the tank. 6) If an oil film starts to build up in the tank, drain the tank and clean out with a strong detergent solution or solvent. 7) Clean the sprayer thoroughly immediately after use by flushing the system with water containing a detergent.

INSTRUCTIONS FOR SAFE HANDLING: Avoid application directly to animals or humans. Flagmen or loaders should avoid inhalation of spray mist or contact with skin and should wash thoroughly before eating and at the end of each day's operation.

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INSTRUCTION FOR SAFE HANDLING: Avoid application directly to animals or humans. Flagmen or loaders should avoid inhalation of spray mist or contact with skin and should wash thoroughly before eating and at the end of each day's operation.

DIRECTIONS FOR USE

CORN: ATRAZINE 4L may be applied either before planting, at planting or after planting as indicated below.

The maximum application rate of corn is 3 lbs. a.i. (6 pts. Atrazine 4L) per acre per calendar year. Applications for quackgrass suppression in corn are restricted to a spring application only. No fall applications are permitted.

PREPLANT (Broadleaf and Grass Weed Control): Broadcast in the spring after plowing at the rate indicated in Table 1. Application may be made before, during or after final seedbed preparation. If soil is tilled or worked after application, avoid deep incorporation of ATRAZINE 4L. Best results have been obtained when ATRAZINE 4L is applied within two weeks prior to planting.

PREEMERGENCE (Broadcast and Grass Weed Control): Apply during or shortly after planting prior to weed emergence at the rate indicated in Table 1.

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POSTEMERGENCE (Broadleaf and Grass Weed Control): Apply before weeds exceed 1½ inches in height, at the rate indicated in Table 1.

TABLE 1 For control of Broadleaf and Grass Weeds*	
Soil Texture	ATRAZINE 4L Broadcast Rate/A
Light Soils: sands, loamy sands and sandy loams.	4 pints
Medium Soils: silt and clay loams that are low in organic matter	4¾ pints
Heavy Soils: silt and clay loams with medium to high organic matter and clays (including the dark prairie sections of the Corn Belt)	6 pints
Peats, muck and high organic clays (apply postemergence only)	6 pints

Postemergence application to corn must be made before corn reaches 12 inches in height.

*For Preplant or Preemergence Application in Western Kansas, Western Nebraska, Eastern Colorado, Eastern Wyoming, New Mexico, West Texas and the Panhandle of Oklahoma. On sands, loamy sands, sandy loams, mild to strongly alkaline soils and all recently leveled soils, apply 2 2/5 pints per acre for broadleaf control. Broadleaf weeds such as pigweed, lambsquarters, nightshade, purslane and kochia will be controlled. On other soil types in the areas above, make application at the rate shown in Table 1 for broadleaf and grass weed control.

LAYBY TREATMENT (Broadleaf and Grass Weed Control): Broadcast 2-4 pints per acre in a minimum of 5 gals. of water or nitrogen solution before weeds are 1½ inches high and corn is 20-30 inches high. When nitrogen solutions are used, direct the spray to the lower ¾ inches of cornstalk to avoid corn foliage injury. Agitation in the spray tank during application is essential.

POSTEMERGENCE BROADLEAF AND GRASS WEED CONTROL WITH ATRAZINE 4L PLUS EMULSIFIABLE OIL IN WATER: Broadcast 4 pints per acre before weeds emerge, but before weeds reach 1½ inches in height. Add 1 gallon of oil per acre at rate of 1 gallon per acre for ground applications and ½ gallon per acre for aerial applications.

POSTEMERGENCE BROADLEAF WEED CONTROL WITH ATRAZINE 4L PLUS EMULSIFIABLE OIL IN WATER: Broadcast 4 pints per acre before weeds emerge, but before weeds reach 1½ inches in height. Add 1 gallon of oil per acre at rate of 1 gallon per acre for ground applications and ½ gallon per acre for aerial applications. If all weeds are not controlled, a second application may be necessary if all weeds are not controlled.

PRECAUTIONS FOR APPLICATIONS OF ATRAZINE 4L PLUS EMULSIFIABLE OIL IN WATER TO CORN:

1 — Do not use oil in ATRAZINE 4L sprays when corn is under stress from prolonged cold weather, poor fertility, other factors or when corn is wet and succulent from recent rainfall as crop injury may result.

2 — Do not use oils in sprays containing inbred lines or any breeding stock as injury may result.

3 — Do not mix ATRAZINE 4L and emulsifiable oil in water because they cause compatibility problems.

4 — Do not mix ATRAZINE 4L and emulsifiable oil in water because they cause compatibility problems.

PROBLEM WEEDS

FOR CONTROL OF YELLOW NUTSEDGE AND CANADA THISTLE: ATRAZINE 4L will control yellow nutsedge (*Cyperus esculentus*) and Canada thistle (*Cirsium arvense*) when applied as indicated below. For best results, ATRAZINE 4L should be used each year until yellow nutsedge or Canada thistle is eliminated or reaches a level of infestation where neither weed species is a problem if regrowth of yellow nutsedge or Canada thistle occurs following the last application of ATRAZINE 4L during the season, cultivate once. When ATRAZINE 4L is applied postemergence to the weeds, 1 gallon of emulsifiable crop oil should be applied per acre.

For control of yellow nutsedge and Canada thistle with ATRAZINE 4L, several alternative methods of use are available. These methods are listed in order of preference below if other weed species, such as annual grasses, are also expected, use an alternative method that includes a preplant or preemergence treatment plus a postemergence combination with emulsifiable oil or apply all the ATRAZINE 4L preplant or preemergence.

1. Broadcast 3 pints of ATRAZINE 4L plus 1 gallon of emulsifiable oil per acre after the crop has emerged and after yellow nutsedge or Canada thistle plants emerge, but before yellow nutsedge plants reach a height of 3 inches or Canada thistle plants reach a height of 6 inches. Follow with a second application of 3 pints of ATRAZINE 4L plus ¾ gallon of oil per acre 10 to 20 days but prior to lay-by (before corn reaches 12 inches in height) after the initial application has been made.

2. Broadcast 3 pints of ATRAZINE 4L per acre preplant. Follow with an application of 3 pints of ATRAZINE 4L plus ¾ gallon of oil per acre after the corn and weeds emerge, but before nutsedge plants reach a height of 3 inches (for nutsedge control only).

3. Broadcast 4 pints of ATRAZINE 4L per acre during or shortly after planting, but prior to crop or weed emergence. Follow with an application of 3 pints of ATRAZINE 4L plus ¾ gallon of oil per acre after the corn and weeds emerge, but before yellow nutsedge plants reach a height of 3 inches or Canada thistles plants reach a height of 6 inches.

4. Broadcast 6 pints of ATRAZINE 4L plus 1 gallon of oil per acre after the crop has emerged but prior to lay-by (before corn reaches 12 inches in height) and after yellow nutsedge and Canada thistle plants emerge, but before nutsedge reaches a height of 3 inches or Canada thistle is more than 6 inches tall.

5. Broadcast 6 pints of ATRAZINE 4L per acre preplant (for yellow nutsedge control only).

6. Broadcast 6 pints of ATRAZINE 4L per acre during or shortly after planting, but prior to crop or weed emergence. (For yellow nutsedge control only).

NOTE: Oil should not be used in ATRAZINE sprays when corn is wet or under stress, especially when using 6 pints of ATRAZINE 4L per acre. See precaution section under Postemergence Application of ATRAZINE 4L plus Emulsifiable Oil in Water on Corn for additional directions.

FOR QUACKGRASS CONTROL ON LAND GOING INTO CORN PRODUCTION: Broadcast 4 pints per acre in the spring and plow 1-3 weeks later. Broadcast a second application at the rate of 4 pints per acre in the spring before, during or after planting, but before weeds are 1½ inches high. This split application will control both quackgrass and most annual broadleaf and grass weeds. **SINGLE APPLICATION:** Broadcast 6 pints per acre in the spring. Plow 1-3 weeks after application.

TANK MIXTURES WITH ATRAZINE 4L

ATRAZINE 4L PLUS PARAQUAT CL: For control of existing vegetation and residual control where corn will be planted directly into a cover crop, established sod or in previous crop residues — Broadcast 4-6 pints ATRAZINE 4L and 1-2 pints Paraquat CL per acre in 20-60 gallons of water per acre. Add 8 oz. of nonionic surfactant per 100 gallons of diluted spray. Add ATRAZINE 4L to spray tank first and thoroughly mix with water. Add the Paraquat and surfactant last.

Refer to the Paraquat CL label for further direction, limitations and cautions.

ATRAZINE 4L PLUS ALACHLOR 4EC: Use a tank mixture of ATRAZINE 4L plus Alachlor 4EC for control of most annual broadleaf and grass weeds in corn field and silage corn only, such as barnyardgrass, black nightshade, bractwheat, carpenter, crabgrass, fall panicum, Florida pusley, giant foxtail, green foxtail, yellow foxtail, goosegrass, lambsquarters, pigweed, purslane, mustard, common ragweed, smartweed and sunflower. This combination also reduces competition from butterweed (velvetleaf), cocklebur and annual morning glory.

Make applications at the rate indicated in Table II. For preplant applications, apply within 2 days of planting and incorporate to a depth of 2 to 3 inches. For preemergence applications, apply to soil surface after planting, but before the crop or weeds emerge. For postemergence treatments, make applications until weeds reach the two-leaf stage, and the corn is no more than three inches tall.

TABLE II Tank Mixtures of ATRAZINE 4L Plus Alachlor 4EC On Corn (Field on Silage Only)				
Soil Texture	Broadcast Rate Per Acre Less than 3% organic matter		Broadcast Rate Per Acre More than 3% organic matter	
	Atazine 4L (Pints/A)	Alachlor 4EC (Qts./A)	Atazine 4L (Pints/A)	Alachlor 4EC (Qts./A)
Light sandy soils	2	15	2	15
Silt loam soils	2 - 2 2/5	1.75	2 - 2 2/5	20
Heavy clay soils	2 2/5 - 3 1/5	2.5	2 2/5 - 3 1/5	25

NOTE: Apply in a minimum of 20 gallons of water per acre. Non-pressure fluid fertilizer may replace all or part of the water used as a carrier for applications applied to the soil surface before crop emerges. Add the ATRAZINE 4L to the spray tank first and thoroughly mix with water. Add the Alachlor last.

At least 12 weeks must elapse following treatment with ATRAZINE 4L plus Alachlor 4EC before immature corn forage can be harvested or fed to cattle.

Refer to the Alachlor 4EC label for further directions, limitations and cautions.

ATRAZINE 4L PLUS PROPAACHLOR 65W: Use a tank mixture of ATRAZINE 4L plus Propachlor 65W for control of most annual broadleaf and grass weeds in corn field hybrid seed, silage and sweet corn only, such as annual ryegrass, barnyardgrass (watergrass), carpenter, crabgrass, fall panicum, Florida pusley, giant foxtail, green foxtail, yellow foxtail, goosegrass, groundsel, jimsonweed, lambsquarters, mustard, nightshade, pigweed, purslane, ragweed, smartweed and sunflower. This combination also reduces competition from butterweed (velvetleaf), cocklebur and annual morning glory. Broadcast 2 1/10 - 3 1/5 pints of ATRAZINE 4L plus 3.8 to 6.0 lbs of Propachlor 65W per acre on the surface any time from immediately after planting until broadleaf and grass weeds reach the two-leaf stage. Use the lower rates of ATRAZINE 4L and Propachlor 65W on the light-textured soils low in organic matter. Use the higher rates on heavy-textured soils high in organic matter.

A minimum of 2 4/5 pints per acre of ATRAZINE 4L in the tank mixture will give better control of annual morning glory, butterweed (velvetleaf), cocklebur and sunflower.

Apply in a minimum of 20 gallons of water per acre. Non-pressure liquid fertilizer may replace all or part of the water used as a carrier for applications applied to the soil surface before crop and weeds emerge. Add the ATRAZINE 4L to the spray tank first and thoroughly mix with water. Cut the Propachlor 65W bag and fill with water to the fill line. Grasp the neck of the bag firmly and shake vigorously and add to the spray tank.

Refer to Propachlor 65W label for further directions, limitations and cautions.

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- APPLICATIONS TO CORN**
- 1 — Do not apply more than 6 pints per acre of ATRAZINE 4L to corn in any one year.
 - 2 — Following harvest of a treated crop, plow (moldboard or disk-plow) and thoroughly till the soil in the fall or spring to minimize possible injury to rotational spring-seeded crops, regardless of the rate used.
 - 3 — Do not graze treated area or feed treated forage to livestock for 21 days following application.

For postemergence applications plus emulsifiable oil, see additional precautions under that section of this label.

SUGGESTIONS FOR ROTATIONAL CROPS

- 1 — Land treated with ATRAZINE 4L should not be planted to any crop except corn or sorghum until the following year or injury may occur.
- 2 — If ATRAZINE 4L is applied after June 10, do not rotate with crops other than corn or sorghum the next year or injury may occur.
- 3 — If ATRAZINE 4L is used at a broadcast rate higher than 6 pints per acre (or comparable rates in a band application), crop of untreated corn or sorghum should precede the next rotational crop.
- 4 — In the High Plains and Intermountain areas of the West where rainfall is sparse and erratic or where irrigation is required, use ATRAZINE 4L to control weeds on corn only when corn is to follow corn or a crop of untreated corn, or sorghum is to precede other rotational crops.
- 5 — In Western Minnesota and Eastern parts of the Dakotas, Nebraska and Kansas, corn treated with ATRAZINE 4L should not be followed with soybeans if the broadcast rate applied was more than 4 pints per acre (or comparable rate in a band) or injury may occur.
- 6 — Injury may occur to soybeans planted in North Central Iowa and South Central Minnesota the year following an ATRAZINE 4L application on Harps, Canisio, Stroden or other soils having a calcareous surface layer.
- 7 — Do not plant sugar beets, tobacco, vegetables (including dry beans), spring-seeded small grains or small-seeded legumes and grasses the year following ATRAZINE 4L application or injury may occur.

SORGHUM AND SORGHUM-SUDAN HYBRIDS (Grain and Forage Types): ATRAZINE 4L may be applied either before planting, at planting or after planting as indicated below.

The maximum application rate for sorghum is 3 lbs. a.i. per acre per calendar year. Applications for quackgrass suppressions in sorghum are restricted to spring application only. No fall applications are permitted.

PREPLANT (Broadcast and Grass Weed Control): Broadcast in the spring after plowing at the rate indicated in Table III. Application may be made before, during or after final seedbed preparation. If soil is tilled or worked after application, avoid deep incorporation of ATRAZINE 4L. Best results have been obtained when ATRAZINE 4L is applied within two weeks prior to planting.

PREEMERGENCE (Broadcast and Grass Weed Control): Apply during or shortly after planting, but prior to weed or crop emergence at the rate indicated in Table III.

TABLE III Preplant and Preemergence Applications ¹ For Broadleaf and Grass Weed Control in Sorghum		
Soil Texture	Organic Matter	Broadcast Rate of ATRAZINE 4L Per Acre
Light Soils: sands, loamy sands, sandy loams and sandy clay loam	any level	DO NOT USE (except for preemergence use on bedded sorghum in Arizona and California as in- dicated below)
Medium and Heavy Soils	Less than 1%	
Silt loams, clay loams	1% to 1 1/2%	3 1/5 - 4 pints
and clays	More than 1 1/2%	3 1/5 - 4 3/4 pints

ATRAZINE 4L should not be applied preplant to sorghum grown in New Mexico, Oklahoma, Texas, Arkansas, Louisiana, Tennessee, Mississippi, Alabama, Georgia, Florida, South Carolina and North Carolina or preemergence to sorghum grown in New Mexico, Texas and Oklahoma or in N.E. Oklahoma and the Texas Gulf Coast.

... planting failures, sorghum can be replanted into soil previously treated with ATRAZINE 4L. Do not make a second broadcast application or injury may occur. If ATRAZINE 80W is applied in a band and sorghum is replanted in the untreated row middles, ATRAZINE 4L can be applied in a band to the second planting (Do not apply more than 3 lbs. a.i. per acre per calendar year.)

PREEMERGENCE BROADLEAF WEED CONTROL IN FURROW IRRIGATED BEDDED SORGHUM (Arizona and California only): For preemergence control of broadleaf weeds such as ground cherry, lambsquarters, morning glory, mustard, pigweed and purslane, broadcast at 1 3/5 to 2 2/5 pints per acre. Use the lower rate on coarse-textured soils and soils high in organic matter. Make application after bed preparation, during or after planting, but before sorghum and weeds have emerged and before the first furrow irrigation. Several irrigations should follow the application, making sure that all soil is thoroughly wet.

PRECAUTIONS FOR PREEMERGENCE APPLICATIONS OF ATRAZINE 4L TO FURROW IRRIGATED BEDDED SORGHUM GROWN IN ARIZONA AND CALIFORNIA: To avoid possible sorghum injury, do not use on sand and loamy sand soils or on sorghum planted in the row. Additionally, applications made to sorghum growing on alkali soils or where cuts, fills or erosions have exposed calcareous or alkali substrates, may result in crop injury. In case of up failure, do not replant sorghum for eight months following application. Corn may be planted immediately.

Postemergence application to sorghum must be made before sorghum reaches 12 inches in height.

POSTEMERGENCE BROADLEAF AND GRASS WEED CONTROL: Apply before weeds exceed 1 1/2 inches in height and at the rate indicated in Table IV. Application must be made to plants before plants reach the 12 inches in height.

TABLE IV Postemergence Broadleaf and Grass Weed Control in Sorghum		
Soil Texture	Minimum Height of Sorghum at Treatment	Broadcast Rate/ATRAZINE 4L
Sand or loamy sand		DO NOT USE
Sandy loam		See directions for broadleaf and weed control below
Silt loams to sandy clay loams	Completely emerged	4 - 4 1/4 pints
Clay and Pulman clay soils	At least 8 inches high	4 - 4 1/4 pints
Silty clay loams and heavier soils	Completely emerged	6 pints

POSTEMERGENCE BROADLEAF WEED CONTROL WITH ATRAZINE 4L PLUS EMULSIFIABLE OIL IN WATER: Broadcast 2-2 1/2 pints per acre for control of broadleaf weeds such as annual morning glory, cocklebur, lambsquarters, mustard, pigweed, ragweed, smartweed and wild buckwheat. Application should be made before pigweed and lambsquarters reach six inches in height and before all other weeds reach four inches in height. In Texas, New Mexico, Oklahoma, Western Kansas, Colorado and the desert regions of California and Arizona, apply when sorghum is 6-10 inches in height, but before it reaches 12 inches in height. In all other areas, apply after sorghum reaches the three-leaf stage. Add emulsifiable oil at the rate of 1 gallon per acre for ground applications and 1/2 gallon per acre for aerial application. A cultivation may be necessary if all weeds are not controlled or if regrowth of weeds occurs.

PRECAUTIONS FOR APPLICATION OF ATRAZINE 4L PLUS EMULSIFIABLE OIL IN WATER TO SORGHUM

- 1 — Do not use oil in ATRAZINE 4L sprays when sorghum is under stress from prolonged cold, wet weather, poor fertility or other factors or when sorghum is wet and succulent (i.e. recent rainfall as crop injury may occur).
- 2 — Do not use in ATRAZINE 4L sprays when treating inbred lines or any breeding stock; injury may occur.
- 3 — Adding other insecticides, herbicides, liquid fertilizers or other materials is not recommended because they may cause compatibility problems or crop injury.
- 4 — Store and handle emulsifiable oil carefully. Oil contaminated with even a small amount of water may not emulsify properly when added to the tank.
- 5 — Do not make more than one application of ATRAZINE 4L emulsifiable oil in water per season.

Postemergence Broadleaf Weed Control with ATRAZINE 4L plus Surfactant in Oklahoma, New Mexico, Texas, Western Kansas, Colorado, and Desert regions of Arizona and California only: Broadcast 2 2/5 pints of ATRAZINE 4L plus 1/4 - 1 1/2 pints of surfactant per acre after sorghum reaches 6 inches in height, but before weeds reach 1 1/2 inches in height. Apply only on sandy loams and finer-textured soils.

PRECAUTIONS FOR ALL APPLICATIONS TO SORGHUM

- 1 — Heavy rains immediately following application tend to result in excessive concentration of herbicide in seed furrow, resulting in possible crop injury. Applications to furrow-planted sorghum should not be made until furrows are leveled (plow-in). Deep planter marks or seed furrows should not be leveled before application.
- 2 — Application to sorghum growing under stress caused by minor element deficiency or to sorghum growing on highly calcareous soils may result in crop injury.
- 3 — Do not graze or feed forage from treated areas for 21 days following application.
- 4 — Following harvest of a treated crop, plow (moldboard or disk-plow) and thoroughly till the soil in the fall or spring to minimize possible injury to rotational spring-seeded crops regardless of rate used.

For applications to furrow-irrigated bedded sorghum in Arizona and California and for postemergence applications plus emulsifiable oil, see additional precautions under those sections of this label.

SUGGESTIONS FOR ROTATIONAL CROPS:

- 1 — Land treated with ATRAZINE 4L should not be planted to any crop except corn or sorghum until the following year or injury may occur.
 - 2 — If ATRAZINE 4L is applied after June 10, do not rotate with crops other than corn or sorghum the next year or injury may occur.
 - 3 — If ATRAZINE 4L is used at a broadcast rate higher than 6 pints per acre (or comparable rates in a band application), a crop of untreated corn or sorghum should precede the next rotational crop.
 - 4 — In the High Plains and Intermountain areas of the West where rainfall is sparse and erratic or where irrigation is required, use ATRAZINE 4L to control weeds in sorghum only when sorghum is to follow sorghum or a crop of untreated sorghum, or corn is to precede other rotational crops.
 - 5 — In Western Minnesota, and Eastern parts of the Dakotas, Nebraska, and Kansas, sorghum treated with ATRAZINE 4L should not be followed with soybeans if the broadcast rate applied was more than 4 pints per acre (or comparable rate in a band) or injury may occur.
 - 6 — Injury may occur to soybeans planted in North Central Iowa and South Central Minnesota the year following an ATRAZINE 4L application on Harps, Canisio, Stroden, or other soils having a calcareous surface layer.
 - 7 — Do not plant sugar beets, tobacco, vegetables (including dry beans), spring-seeded small grains or small-seeded legumes and grasses the year following an ATRAZINE 4L application or injury may occur.
- SUGAR CANE:** For control of nonrhizomatous weeds such as crabgrass, jungle rice, large crabgrass, foxtail, amaranths, Florida's paintbrush, brewer's and similar plants: Broadcast 2 - 4 pints per acre in 20 - 50 gallons of water for adequate coverage of the soil surface at time of planting or ratooning, but before the cane emerges. One additional application may be made over the cane as it emerges, and two additional applications may be made thereafter after emergence as a directed spray.

For control of emerged Perennial Weeds (artillery weed) (Florida only): Apply 1/2 - 3/4 pints per acre in 40 gallons of water per acre as a directed spray. Add 2 quarts of surfactant for each 50 gallons of spray and be sure weed foliage is thoroughly covered.

PRECAUTIONS:

- 1 — Do not apply ATRAZINE 4L after "close in".
- 2 — Do not apply more than 9 1/2 quarts of ATRAZINE 4L to any one crop of cane.

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FOREST AND CHRISTMAS TREE PLANTATIONS: Douglas Fir, Grand Fir, Noble Fir, White Fir, Lodgepole Pine, Ponderosa Pine and Scotch Pine (Pacific Northwest - West of Cascade only). Annual broadleaf and grass weed control. Broadcast 2-4 quarts in 20 to 40 gallons of water per acre to assure thorough coverage. For band applications reduce rate of ATRAZINE 4L and volume of water in proportion to the acre treated. For example, when treating a 4 foot band over trees planted in rows 8 feet apart apply 1-2 quarts per acre. Apply between fall and early spring while trees are dormant or soon after transplanting and before weeds are 1 1/2 inches high.

QUACKGRASS CONTROL: Broadcast 4 quarts per acre in 20-40 gallons of water for adequate coverage. Apply in fall or early spring while trees are dormant and before weed seedlings are more than 1 1/2 inches high. This application will also control most annual broadleaf and grass weeds.

PRECAUTIONS:

- 1 — Do not graze treated areas.
- 2 — Do not apply to seedbeds.
- 3 — Do not make more than one application per year.

NONSELECTIVE WEED CONTROL ON NONCROP LAND: For use on fence rows, around utility poles, and industrial sites, highway medians and shoulders, railroad right-of-way, lumberyards, petroleum tank farms, and in noncrop areas on farms, such as around buildings, equipment, and fuel storage areas, along fences and lanes. Apply ATRAZINE 4L at rates recommended below before or soon after weeds begin growth. Postemergence application, should be made when weeds are young and actively growing. Use higher rates on heavy clay and muck soils. Do not contaminate domestic or irrigation water supplies, or lakes, streams, or ponds. Use sufficient water to assure thorough coverage. Use at least 1 gallon of water for each quart of ATRAZINE 4L, more if practical. Mechanical by-pass or jet agitation is necessary to keep ATRAZINE 4L in suspension during application.

Most annual broadleaf and grass weeds, broadcast 8 2/3 pints to 10 quarts per acre. Hard to kill annual and many perennial broadleaf and grass weeds, broadcast 10 quarts per acre. Hard to kill biennial and perennial weeds such as bull thistle and sow thistle, broadcast 10 quarts per acre. For longer residual control in regions of high rainfall and long growing season broadcast 10 quarts per acre. For small areas, 1/2 pint per 1,000 sq. ft. is equivalent to 9 1/4 quarts per acre.

NOTE:

Application rates to non crop land for industrial weed control cannot exceed a maximum of 10 lbs. active ingredient per acre per calendar year.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

STORAGE INSTRUCTIONS: Storage should be under lock and key and secure from access by unauthorized persons and children. Storage should be in a cool dry area away from any heat or ignition source. Avoid storage at high temperatures. Do not stack over 2 pallets high. Move containers by handles or cases. Do not move containers from one area to another unless they are securely sealed. Keep container tightly sealed when not in use. Keep away from any puncture source. Avoid storage near water supplies, food, feed and fertilizer to avoid contamination. Avoid contamination with acids or alkalis. Store in original containers only. If the contents are leaking or material is spilled follow these steps:

- 1 — Contain spill, absorb with a material such as saw dust, clay or granules, or dirt.
- 2 — Collect and place in suitable containers for disposal.
- 3 — Wash area with water and soap to remove remaining pesticide.
- 4 — Follow washing with clean water rinse.
- 5 — Place a leaking container in a plastic tub and transfer contents as soon as possible to an empty original container.
- 6 — Do not allow run off to enter sewer or contaminate water supplies.
- 7 — Dispose of waste as indicated below.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

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

WARRANTY — CONDITION OF SALE

OUR RECOMMENDATIONS FOR USE of this product are based upon best believed reliable. Follow directions carefully. Timing and method of application, weather and crop conditions, mixtures with other chemicals not specifically recommended and other influencing factors in the use of this product are beyond the control of the seller. Buyer assumes all risks of use, storage and handling of this material not in strict accordance with directions given herewith.

In no case shall the Seller be liable for consequential, special or indirect damages resulting from the use or handling of this product when such use and/or handling is not in strict accordance with directions given herewith. The foregoing is a condition of sale by the seller and is accepted as such by the Buyer.

PDS 080189
CPC 009901

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NOT REVIEWED
In Accordance with FR Notice 8
Based on Draft Labeling Dated

2/22/88

ATRAZINE 4L

HERBICIDE

For season-long weed control in corn and sorghum, for weed control in certain other crops, in non-crop and industrial sites.

ACTIVE INGREDIENTS:

Atrazine (2-chloro-4-ethylamino-6-isopropylamino-s-triazine).....
Related compounds.....

INERT INGREDIENTS:

TOTAL

Atrazine 4L contains 4 lbs. active ingredients per gallon.

KEEP OUT OF REACH OF CHILDREN
CAUTION

See Side Panel For Additional Precautionary Statements
SHAKE WELL BEFORE USING

NET CONTENT: 2½ Gallons
9.45 Liters



MANUFACTURED FOR
OXON ITALIA S.p.A.

Via Sempione, 195 - 20016 PERO
MILANO - ITALY

EPA REG.
EPA EST.N

WORKER PROTECTION STATEMENT

Do not enter treated areas without protective clothing until sprays have dried. Because certain states may require more restrictive re-entry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.

Written or oral warnings must be given to workers who are expected to be in a treated area or in an area about to be treated with this product. (Indicate specific oral warnings which inform workers of areas or fields that may not be entered without specific protective clothing, period of time field must be vacated and the appropriate actions to take in case of accidental exposure). When oral warnings are given, warnings shall be given in a language customarily understood by workers. Oral warnings must be given if there is reason to believe that written warnings cannot be understood by workers. Written warnings must include the following information: **CAUTION** — Area treated with ATRAZINE on (date of application). Do not enter without appropriate protective clothing until sprays have dried. In case of accidental exposure treat as follows:

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful or fatal if swallowed. Causes moderate eye irritation. Do not get in eyes, on skin, or on clothing. Wear goggles. Harmful if swallowed, inhaled, or absorbed through the skin. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating. Remove contaminated clothing and wash before reuse. Do not apply this product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons.

STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED: Call a Physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

IF IN EYES: Immediately flush eyes with plenty of water. Get medical attention if irritation develops.

IF ON SKIN: Immediately flush skin with plenty of soap and water while removing contaminated clothing and shoes. If irritation develops, seek medical attention.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to aquatic invertebrates. Do not apply directly to water or wetlands. Runoff and drift from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters.

ATRAZINE can travel (seep or leach) through soil and can enter groundwater which may be used as drinking water. ATRAZINE has been found in groundwater. Users are advised not to apply ATRAZINE to sand and loamy sand soils where the water table (groundwater) is close to the surface and where these soils are very permeable, i.e., well-drained. Your local agricultural agencies can provide further information on the type of soil in your area and the location of groundwater.

GENERAL INFORMATION

ATRAZINE 4L herbicide will control most annual broadleaf and grass weeds in corn and sorghum such as barnyardgrass, witchgrass (*Panicum capillare*), yellow foxtail, green foxtail, wild oats, large (hairy) crabgrass, giant foxtail, velvetleaf, morning glory, lambsquarters, pigweed, ragweed, nightshade, purslane and mustard. ATRAZINE 4L may be applied before or after weeds emerge.

In each case where a range of rates is given, the lower rate should be used on light soils and soils low in organic matter and the higher rate should be used on heavy soils high in organic matter.

Since ATRAZINE 4L acts mainly through root absorption, its effectiveness depends on rainfall or irrigation to move it into the root zone. Should weeds develop, a shallow cultivation or rotary hoeing will generally result in better weed control.

ATRAZINE 4L is non-flammable.

Care should be taken to avoid using ATRAZINE 4L where adjacent desirable trees, shrubs or plants might be injured.

NOTE: The Seller does not recommend the use of ATRAZINE 4L in combination with other herbicides or oils except as specifically described on the label or in literature published by the Seller.

DIRECTIONS FOR USE

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

APPLICATION PROCEDURES

GROUND APPLICATION: For the most uniform distribution of broadcast applications use 80° flat fan type nozzles. For band applications, use flat fan even spray nozzles. Screens and strainers should be no finer than 50 mesh. Use a pump with capacity to (1) provide sufficient hydraulic agitation during mixing and application to keep the material in suspension and (2) maintain 36-40 psi operating pressure. Use a minimum of 5 gallons of water per acre for preplant incorporated preemergence and post emergence applications. Use a minimum of 10 gallons of water per acre for all postemergence applications combined with oil or surfactant.

FOR BAND APPLICATIONS, CALCULATE THE AMOUNT TO BE APPLIED PER ACRE AS FOLLOWS:

Band width in inches	X	Rate/A for broadcast treatment	=	Amount needed for band treatment
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AERIAL APPLICATION: For preplant and preemergence broadcast treatments, apply at a 1:1 ratio of ATRAZINE 4L to water. Example: recommendation calls for 1 quart of product and is mixed with 1 quart of water) to be applied per acre. For postemergence treatments, apply the recommended rate of ATRAZINE 4L or ATRAZINE 4L plus oil in a minimum of 2 gallons of water per acre. Avoid applications under conditions where uniform coverage cannot be obtained. Excessive drift may occur.

ATRAZINE 4L IN WATER APPLICATIONS: ATRAZINE 4L, a liquid formulation, should be mixed with water and applied as a spray. Pour ATRAZINE 4L into the tank during or after filling. Hydraulic (jet) or mechanical agitation is recommended during mixing and application to keep the material in suspension. All 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.

ATRAZINE 4L IN LIQUID FERTILIZER APPLICATIONS: Nitrogen solutions or complete fertilizers may be used or part of the water as a carrier for preemergence and preplant applications of ATRAZINE 4L. Mixing should be accomplished as described above. Do not apply after corn or sorghum has emerged as there is danger of liquid fertilizers causing crop injury.

ATRAZINE 4L PLUS EMULSIFIABLE OIL IN WATER APPLICATIONS: The addition of oil to postemergence ATRAZINE 4L in water sprays may speed the activity of ATRAZINE 4L and provide quicker kill of weeds. However, under certain conditions, use of oil may seriously damage corn or sorghum. To minimize the possibility of damage, follow the directions, procedures and precautions given below.

For combining with ATRAZINE 4L, use a crop oil designed for use with ATRAZINE 4L. Using a 2% suitable emulsifier. Several oils of this type are on the market. Oils contaminated with water or other material can cause compatibility problems and/or crop damage.

MIXING PROCEDURES: 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 half to two thirds full of clean water. 3) With the agitation system in operation, add the ATRAZINE 4L. 4) Add the emulsifiable oil 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 oil from the water mixture still remaining in the tank. 6) If an oil film starts to build up in the tank, drain the tank and clean out with a strong detergent solution or solvent. 7) Clean the sprayer thoroughly immediately after use by flushing the system with water containing a detergent.

INSTRUCTIONS FOR SAFE HANDLING: Avoid application directly to animals or humans. Flagmen or loaders should avoid inhalation of spray mist or contact with skin and should wash thoroughly before eating and at the end of each day's operation.

DIRECTIONS FOR USE

CORN: ATRAZINE 4L may be applied either before planting, at planting or after planting as indicated below.

PRE-LANT (Broadleaf and Grass Weed Control): Broadcast in the spring after plowing at the rate indicated in Table 1. Application may be made before, during or after final seedbed preparation. If soil is tilled or worked after application, avoid deep incorporation of ATRAZINE 4L. Best results have been obtained when ATRAZINE 4L is applied within two weeks prior to planting.

PREEMERGENCE (Broadcast and Grass Weed Control): Apply during or shortly after planting prior to weed emergence at the rate indicated in Table 1.

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POSTEMERGENCE (Broadleaf and Grass Weed Control): Apply before weeds exceed 1½ inches in height, at the rate indicated in Table 1.

TABLE 1 For control of Broadleaf and Grass Weeds*	
Soil Texture	ATRAZINE 4L Broadcast Rate/A
Light Soils: sands, loamy sands and sandy loams	4 pints
Medium Soils: silt and clay loams that are low in organic matter	4½ pints
Heavy Soils: silt and clay loams with medium to high organic matter and clays (including the dark prairie sections of the Corn Belt)	6 pints
Peats, muck and high organic clays (apply postemergence only)	6 pints

*For Preplant or Preemergence Application in Western Kansas, Western Nebraska, Eastern Colorado, Eastern Wyoming, New Mexico, West Texas and the Panhandle of Oklahoma. On sands, loamy sands, sandy loams, mid to strongly alkaline soils and all recently leveled soils, apply 2-2½ pints per acre for broadleaf control. Broadleaf weeds such as pigweed, lambsquarters, nightshade, purslane and Kochia will be controlled. On other soil types in the areas above, make application at the rate shown in Table 1 for broadleaf and grass weed control.

LAYBY TREATMENT (Broadleaf and Grass Weed Control): Broadcast 2-4 pints per acre in a minimum of 5 gals. of water or nitrogen solution before weeds are 1½ inches high and corn is 20-30 inches high. When nitrogen solutions are used, direct the spray to the lower ¼ inches of cornstalk to avoid corn foliage injury. Agitation in the tank during application is essential.

POSTEMERGENCE BROADCAST BROADLEAF AND GRASS WEED CONTROL WITH ATRAZINE 4L PLUS EMULSIFIABLE OIL IN WATER: Broadcast 4 pints of ATRAZINE 4L per acre after emergence, but before weeds reach 1½ inches in height. Add 1 gallon of oil at the rate of 1 gallon per acre for ground applications and ½ gallon per acre for aerial applications.

POSTEMERGENCE BROADCAST WEED CONTROL WITH ATRAZINE 4L PLUS EMULSIFIABLE OIL IN WATER: Broadcast 2-2½ pints per acre for control of broadleaf weeds such as annual morning glory, cocklebur, lambsquarters, nightshade, pigweed, ragweed, smartweed and wild buckwheat. Application should be made when pigweed and lambsquarters reach six inches in height and before cocklebur, nightshade, pigweed and lambsquarters reach four inches in height. Add emulsifiable oil at the rate of 1 gallon per acre for ground application and ½ gallon per acre for aerial applications. A second application may be necessary if all weeds are not controlled or if regrowth of weeds occurs.

PRECAUTIONS FOR APPLICATIONS OF ATRAZINE 4L PLUS EMULSIFIABLE OIL IN WATER TO CORN:

1 — Do not use oil in ATRAZINE 4L sprays when corn is under stress from prolonged cold, wet weather, poor fertility, or other factors, or when corn is wet and succulent from recent rainfall as crop injury may occur.

2 — Do not use oils in sprays when feeding inbred lines or any breeding stock as injury may occur.

3 — Adding other insecticides, herbicides, liquid fertilizers or other materials is not recommended with ATRAZINE 4L and emulsifiable oil in water because they cause compatibility problems or crop injury.

4 — Store and handle emulsifiable oil carefully. Oil contaminated with even a small amount of water may not emulsify properly when added to the tank.

5 — Do not make more than one application of ATRAZINE 4L and emulsifiable oil in water per season (except as recommended for control of yellow nutsedge and Canada thistle on this label).

PROBLEM WEEDS

FOR CONTROL OF YELLOW NUTSEDGE AND CANADA THISTLE: ATRAZINE 4L will control yellow nutsedge (*Cyperus esculentus*) and Canada thistle (*Cirsium arvense*) when applied as indicated below. For best results, ATRAZINE 4L should be used each year until yellow nutsedge or Canada thistle is eliminated or reaches a level of infestation where neither weed species is a problem if regrowth of yellow nutsedge or Canada thistle occurs following the last application of ATRAZINE 4L during the season. Cultivate once. When ATRAZINE 4L is applied postemergence to the weeds, 1 gallon of emulsifiable crop oil should be applied per acre.

For control of yellow nutsedge and Canada thistle with ATRAZINE 4L, several alternative methods of use are available. These methods are listed in order of preference below if other weed species, such as annual grasses, are also expected. Use an alternative method that includes a preplant or preemergence treatment plus a postemergence combination with emulsifiable oil or apply all the ATRAZINE 4L preplant or preemergence.

1 — Broadcast 4 pints of ATRAZINE 4L plus 1 gallon of emulsifiable oil per acre after the crop has emerged and after yellow nutsedge or Canada thistle plants emerge, but before yellow nutsedge plants reach a height of 3 inches or Canada thistle plants reach a height of 6 inches. Follow with a second application of 4 pints of ATRAZINE 4L plus 1 gallon of oil per acre 10 to 20 days but prior to lay-by (20-30 inches) after the initial application has been made.

2 — Broadcast 4 pints of ATRAZINE 4L per acre preplant. Follow with an application of 4 pints of ATRAZINE 4L plus 1 gallon of oil per acre after the corn and weeds emerge, but before nutsedge plants reach a height of 3 inches (for nutsedge control only).

3 — Broadcast 4 pints of ATRAZINE 4L per acre during or shortly after planting, but prior to crop or weed emergence. Follow with an application of 4 pints of ATRAZINE 4L plus 1 gallon of oil per acre after the corn and weeds emerge, but before yellow nutsedge plants reach a height of 3 inches or Canada thistle plants reach a height of 6 inches.

4 — Broadcast 8 pints of ATRAZINE 4L plus 1 gallon of oil per acre after the crop has emerged but prior to lay-by (20-30 inches) and after yellow nutsedge and Canada thistle plants emerge, but before nutsedge reaches a height of 3 inches or Canada thistle is more than 6 inches tall.

5 — Broadcast 8 pints of ATRAZINE 4L per acre preplant (for yellow nutsedge control only).

6 — Broadcast 8 pints of ATRAZINE 4L per acre during or shortly after planting, but prior to crop or weed emergence (for yellow nutsedge control only).

NOTE: Oil should be used in ATRAZINE sprays when corn is wet or under stress, especially when using 8 pints of ATRAZINE 4L per acre. See precaution section under Postemergence Applications of ATRAZINE 4L plus Emulsifiable Oil in Water on Corn for additional directions.

FOR QUACKGRASS CONTROL ON LAND GOING INTO CORN PRODUCTION:
SPLIT APPLICATION: Broadcast 4 pints per acre in the fall or spring and plow 1-3

weeks later.

Broadcast a second application at the rate of 4 pints per acre in the spring before plowing or after planting, but before weeds are 1½ inches high. This split application will control both quackgrass and most annual broadleaf and grass weeds.

SINGLE APPLICATION: Broadcast 6-8 pints per acre in the fall or spring. Plow 1-3 weeks after application.

TANK MIXTURES WITH ATRAZINE 4L

ATRAZINE 4L PLUS PARAQUAT CL: For control of existing vegetation and residual control where corn will be planted directly into a cover crop, established sod or in previous crop residues. Broadcast 4-6 pints ATRAZINE 4L and 1-2 pints Paraquat CL per acre in 20-60 gallons of water per acre. Add 8 oz. of nonionic surfactant per 100 gallons of diluted spray. Add ATRAZINE 4L to spray tank first and thoroughly mix with water. Add the Paraquat and surfactant last.

Refer to the Paraquat CL label for further directions, limitations and cautions.

ATRAZINE 4L PLUS ALACHLOR 4EC: Use a tank mixture of ATRAZINE 4L plus Alachlor 4EC for control of most annual broadleaf and grass weeds in corn (field and silage corn only) such as barnyardgrass, black nightshade, bractwheat, carpetweed, crabgrass, fall panicum, Florida pusley, giant foxtail, green foxtail, yellow foxtail, goosegrass, lambsquarters, pigweed, purslane, mustard, common ragweed, smartweed and sunflower. This combination also reduces competition from buttonweed (velvetleaf), cocklebur and annual morning glory.

Make applications at the rate indicated in Table II. For preplant applications, apply when 2-3 days before planting and incorporate to a depth of 2 to 3 inches. For preemergence applications, apply to the soil surface after planting, but before the crop or weeds emerge. For postemergence treatments, make applications until weeds reach the two-leaf stage and the corn is no more than three inches tall.

TABLE II Tank Mixtures of ATRAZINE 4L Plus Alachlor 4EC On Corn (Field on Silage Only)				
Soil Texture	Broadcast Rate Per Acre			
	Less than 3% organic matter		More than 3% organic matter	
	ATRAZINE 4L (Pints/A)	Alachlor 4EC (Qts./A)	ATRAZINE 4L (Pints/A)	Alachlor 4EC (Qts./A)
Light sandy soils	2	15	2	15
Silt loam soils	2-2 2/5	1.75	2-2 2/5	20
Heavy clay soils	2 2/5-3 1/5	2.5	2 2/5-3 1/5	25

NOTE: Apply in a minimum of 20 gallons of water per acre. Non-pressure fluid fertilizer may replace all or part of the water used as a carrier for applications applied to the soil surface before crop emergence. Add the ATRAZINE 4L to the spray tank first and thoroughly mix with water. Add the Alachlor last.

At least 12 weeks must elapse following treatment with ATRAZINE 4L plus Alachlor 4EC before immature corn forage can be harvested or fed to cattle.

Refer to the Alachlor 4EC label for further directions, limitations and cautions.

ATRAZINE 4L PLUS PROPACHLOR 65W: Use a tank mixture of ATRAZINE 4L plus Propachlor 65W for control of most annual broadleaf and grass weeds in corn (field and silage and sweet corn only) such as annual ryegrass, barnyardgrass, watergrass, carpetweed, crabgrass, fall panicum, Florida pusley, giant foxtail, green foxtail, yellow foxtail, goosegrass, groundsel, jimsonweed, lambsquarters, mustard, nightshade, pigweed, purslane, ragweed, smartweed and sunflower. This combination also reduces competition from buttonweed (velvetleaf), cocklebur and annual morning glory. Broadcast 2 1/10-3 1/5 pints of ATRAZINE 4L plus 3-8 to 6-10 lbs of Propachlor 65W per acre on the surface any time from immediately after planting until broadleaf and grass weeds reach the two-leaf stage. Use the lower rates of ATRAZINE 4L and Propachlor 65W on the light textured soils low in organic matter. Use the higher rates on heavy textured soils high in organic matter.

A minimum of 2-4.5 pints per acre of ATRAZINE 4L in the tank mixture will give better control of annual morning glory, buttonweed (velvetleaf), cocklebur and sunflower.

Apply in a minimum of 20 gallons of water per acre. Non-pressure liquid fertilizer may replace all or part of the water used as a carrier for applications applied to the soil surface before crop and weeds emerge. Add the ATRAZINE 4L to the spray tank first and thoroughly mix with water. Cut the Propachlor 65W bag and fill with water to the fill line. Grasp the neck of the bag firmly and shake vigorously and add to the spray tank.

Refer to Propachlor 65W label for further directions, limitations and cautions.

PRECAUTIONS FOR ALL APPLICATIONS TO CORN

1 — Do not apply more than 8 pints per acre of ATRAZINE 4L to corn in any one application.

2 — Following harvest of a treated crop, plow (moldboard or disk) and thoroughly till the soil in the fall or spring to minimize possible injury to the next spring crops, regardless of the rate used.

3 — Do not graze treated area or feed treated forage to livestock for 21 days following application.

For postemergence applications plus emulsifiable oil, see additional precautions in that section of this label.

SUGGESTIONS FOR ROTATIONAL CROPS

1 — Land treated with ATRAZINE 4L should not be planted to any crop except corn or sorghum until the following year or injury may occur.

2 — If ATRAZINE 4L is applied after June 10, do not rotate with crops other than corn or sorghum the next year or injury may occur.

3 — If ATRAZINE 4L is used at a broadcast rate higher than 3 pints per acre (or at comparable rates in a band application), crop of untreated corn or sorghum should precede the next rotational crop.

4 — In the High Plains and Intermountain area of the West where rainfall is sparse and erratic or where irrigation is required, use ATRAZINE 4L to control weeds on corn or when corn is to follow corn or a crop of untreated corn, or sorghum is to precede other rotational crops.

5 — In Western Minnesota and Eastern parts of the Dakotas, Nebraska and Kansas, corn treated with ATRAZINE 4L should not be followed with soybeans if the broadcast rate applied was more than 4 pints per acre (or comparable rate in a band) or injury may occur.

6 — Injury may occur to soybeans planted in North Central Iowa and South Central Minnesota the year following an ATRAZINE 4L application on Harps, Canston, Stroger

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or other soils having a calcareous surface layer

7 — Do not plant sugar beets, tobacco, vegetables (including dry beans), spring-seeded small grains or small-seeded legumes and grasses the year following ATRAZINE 4L application or injury may occur

SORGHUM AND SORGHUM-SUDAN HYBRIDS (Grain and Forage Types): ATRAZINE 4L may be applied either before planting, at planting or after planting as indicated below

PREPLANT (Broadcast and Grass Weed Control): Broadcast in the spring after plowing at the rate indicated in Table III. Application may be made before, during or after final seedbed preparation. If soil is tilled or worked after application, avoid deep incorporation of ATRAZINE 4L. Best results have been obtained when ATRAZINE 4L is applied within two weeks prior to planting

PREEMERGENCE (Broadcast and Grass Weed Control): Apply during or shortly after planting, but prior to weed or crop emergence at the rate indicated in Table III

TABLE III
Preplant and Preemergence Applications¹
For Broadcast and Grass Weed Control in Sorghum

Soil Texture	Organic Matter	Broadcast Rate of ATRAZINE 4L Per Acre
Light Soils: sands, loamy sands, sandy loams and sandy clay loam	any level	DO NOT USE (except for preemergence use on bedded sorghum in Arizona and California as indicated below)
Medium and Heavy Soils	Less than 1%	
Silt loams, clay loams and clays	1% to 1 1/2%	3 1/5 - 4 pints
	More than 1 1/2%	3 1/5 - 4 3/4 pints

¹ ATRAZINE 4L should not be applied preplant to sorghum grown in New Mexico, Oklahoma, Texas, Arkansas, Louisiana, Tennessee, Mississippi, Alabama, Georgia, Florida, South Carolina and North Carolina or preemergence to sorghum grown in New Mexico, Texas and Oklahoma except in N.E. Oklahoma and the Texas Gulf Coast

In case of planting failures, sorghum can be replanted into soil previously treated with ATRAZINE 4L. Do not make a second broadcast application or injury may occur. If ATRAZINE 80W is applied in a band and sorghum is replanted in the untreated row middles, ATRAZINE 4L can be applied in a band to the second planting

PREEMERGENCE BROADCAST WEED CONTROL IN FURROW IRRIGATED BEDDED SORGHUM (Arizona and California only): For preemergence control of broadleaf weeds such as ground cherry, lambsquarters, morning glory, mustard, pigweed and purslane, broadcast 1 3/5 to 2 2/5 pints per acre. Use the lower rate on coarse-textured soils or soils high in organic matter. Make application after bed preparation, during or after planting, but before sorghum and weeds have emerged and before the first furrow irrigation. Several irrigations should follow the application, making sure that all soil is thoroughly wet

PRECAUTIONS FOR PREEMERGENCE APPLICATIONS OF ATRAZINE 4L TO FURROW IRRIGATED BEDDED SORGHUM GROWN IN ARIZONA AND CALIFORNIA: To avoid possible sorghum injury, do not use on sand and loamy sand soils or on sorghum planted in the furrow. Additionally, applications made to sorghum growing on alkali soils or where cuts, hills or erosions have exposed calcareous or alkali subsoils, may result in crop injury. In case of crop failure, do not replant sorghum for eight months following application. Corn may be planted immediately

POSTEMERGENCE BROADCAST WEED AND GRASS WEED CONTROL: Apply before weeds exceed 1 1/2 inches in height and at the rate indicated in Table IV. Applications may be made up to close in

TABLE IV
Postemergence Broadcast and Grass Weed Control in Sorghum

Soil Texture	Minimum Height of Sorghum at Treatment	Broadcast Rate/ATRAZINE 4L
Sand or loamy sand		DO NOT USE
Sandy loam	See directions for broadcast and weed control below	
Silt loams to sandy clay loams	Completely emerged	4 - 4 1/4 pints
Oton and Pullman clay soils	At least 6 inches high	4 - 4 1/4 pints
Silty clay loams and heavier soils	Completely emerged	6 pints

POSTEMERGENCE BROADCAST WEED CONTROL WITH ATRAZINE 4L PLUS EMULSIFIABLE OIL IN WATER: Broadcast 2 2/5 pints per acre for control of broadleaf weeds such as annual morning glory, cocklebur, lambsquarters, mustard, pigweed, ragweed, smartweed and wild buckwheat. Application should be made before pigweed and lambsquarters reach six inches in height and before all other weeds reach four inches in height. In Texas, New Mexico, Oklahoma, Western Kansas, Colorado and the desert regions of California and Arizona, apply when sorghum is 6 - 10 inches in height, but before it reaches the boot stage. In all other areas, apply after sorghum reaches the three-leaf stage. Add emulsifiable oil at the rate of 1 gallon per acre for ground applications and 1/2 gallon per acre for aerial application. A cultivation may be necessary if all weeds are not controlled or if regrowth of weeds occurs

PRECAUTIONS FOR APPLICATION OF ATRAZINE 4L PLUS EMULSIFIABLE OIL IN WATER TO SORGHUM

1 — Do not use oil in ATRAZINE 4L sprays when sorghum is under stress from prolonged wet weather, poor fertility or other factors or when sorghum is wet and succulent from recent rainfall as crop injury may occur

2 — Do not use in ATRAZINE 4L sprays when treating inbred lines or any breeding stock as injury may occur

3 — Adding other insecticides, herbicides, liquid fertilizers or other materials is not recommended because they may cause compatibility problems or crop injury

4 — Store and handle emulsifiable oil carefully. Oil contaminated with even a small amount of water may not emulsify properly when added to the tank

5 — Do not make more than one application of ATRAZINE 4L emulsifiable oil in water per season

Postemergence Broadcast Weed control with ATRAZINE 4L plus Surfactant in Oklahoma, New Mexico, Texas, Western Kansas, Colorado, and Desert regions of Arizona and California only: Broadcast 2 2/5 pints of ATRAZINE 4L plus 1/4 - 1 1/2 pints of surfactant per acre after sorghum reaches 6 inches in height, but before weeds reach 1 1/2 inches in height. Apply only on sandy loams and finer-textured soils

PRECAUTIONS FOR ALL APPLICATIONS TO SORGHUM

1 — Heavy rains immediately following application tend to result in excessive concentrations of herbicide in seed furrow, resulting in possible crop injury. Applications to furrow-planted sorghum should not be made until furrows are leveled (plowed in). Deep planter marks or seed furrows should not be leveled before application

2 — Application to sorghum growing under stress caused by minor element deficiency or to sorghum growing on highly calcareous soils may result in crop injury

3 — Do not graze or feed forage from treated areas for 21 days following application

4 — Following harvest of a treated crop, plow (moldboard or disk plow) and thoroughly till the soil in the fall or spring to minimize possible injury to rotational spring-seeded crops

regardless of rate used

For applications to furrow-irrigated bedded sorghum in Arizona and California and for postemergence applications plus emulsifiable oil, see additional precautions on the back of this label

SUGGESTIONS FOR ROTATIONAL CROPS:

1 — Land treated with ATRAZINE 4L should not be planted to any crop except corn or sorghum until the following year or injury may occur

2 — If ATRAZINE 4L is applied after June 10, do not rotate with crops other than corn or sorghum the next year or injury may occur

3 — If ATRAZINE 4L is used at a broadcast rate higher than 6 pints per acre (or comparable rates in a band application), a crop of untreated corn or sorghum should precede the next rotational crop

4 — In the High Plains and Intermountain areas of the West where rainfall is sparse and erratic, or where irrigation is required, use ATRAZINE 4L to control weeds in sorghum only, when sorghum is to follow sorghum or a crop of untreated sorghum or corn is to precede other rotational crops

5 — In Western Minnesota and Eastern parts of the Dakotas, Nebraska and Kansas, sorghum treated with ATRAZINE 4L should not be followed with soybeans if the broadcast rate applied was more than 4 pints per acre (or comparable rate in a band) or injury may occur

6 — Injury may occur to soybeans planted in North Central Iowa and South Central Minnesota the year following an ATRAZINE 4L application on Harps, Canisteo, Stroden, or other soils having a calcareous surface layer

7 — Do not plant sugar beets, tobacco, vegetables (including dry beans), spring-seeded small grains or small-seeded legumes and grasses the year following an ATRAZINE 4L application or injury may occur

SUGAR CANE: For control of nonrhizomatous weeds such as crabgrass, jungle rice, wiregrass, foxtail, amaranths, Florida's paintbrush, fireweed and similar plants, broadcast 2 - 4 quarts per acre in 20 - 50 gallons of water for adequate coverage of the soil surface at time of planting or ratooning, but before the cane emerges. One additional application may be made over the cane as it emerges, and two additional applications may be made interline after emergence as a directed spray

For control of emerged Pellitory Weeds (antler weed) (Florida only), apply 1 1/2 pints per acre in 40 gallons of water per acre as a directed spray. Add 2 quarts of surfactant for each 50 gallons of spray and be sure weed foliage is thoroughly covered

PRECAUTIONS:

1 — Do not apply ATRAZINE 4L after close in

2 — Do not apply more than 9 1/2 quarts of ATRAZINE 4L to any one acre of land

FOREST AND CHRISTMAS TREE PLANTATIONS: Douglas Fir, Grand Fir, Noble Fir, White Fir, Lodgepole Pine, Ponderosa Pine and Scotch Pine (Pacific Northwest, West of Cascade only). Annual broadcast and grass weed control. Broadcast 2 - 4 quarts in 20 to 40 gallons of water per acre to assure thorough coverage. For band applications reduce rate of ATRAZINE 4L and volume of water in proportion to the acre treated. For example, when treating a 4-foot band over trees planted in rows 8 feet apart, apply 1 - 2 quarts per acre. Apply between late fall and early spring while trees are dormant or soon after transplanting and before weeds are 1 1/2 inches high

QUACKGRASS CONTROL: Broadcast 4 quarts per acre in 20 - 40 gallons of water for adequate coverage. Apply in fall or early spring while trees are dormant and before weed seedlings are more than 1 1/2 inches high. This application will also control most annual broadleaf and grass weeds

PRECAUTIONS:
1 — Do not graze treated areas
2 — Do not apply to seedbeds
3 — Do not make more than one application per year

NONSELECTIVE WEED CONTROL ON NONCROP LAND: For use on fence rows, around utility poles, and industrial sites, highway medians and shoulders, railroad right of way, lumberyards, petroleum tank farms, and in noncrop areas on farms, such as around buildings, equipment and fuel storage areas, along fences and lanes. Apply ATRAZINE 4L at rates recommended below before or soon after weeds begin growth. Postemergence applications should be made when weeds are young and actively growing. Use higher rates on heavy clay and muck soils. Do not contaminate domestic or irrigation water supplies or lakes, streams or ponds. Use sufficient water to assure thorough coverage. Use at least 1 gallon of water for each quart of ATRAZINE 4L, more if practical. Mechanical by-pass or jet agitation is necessary to keep ATRAZINE 4L in suspension during application

Most annual broadleaf and grass weeds, broadcast 8 1/2 pints to 10 quarts per acre. Hard to kill annual and many perennial broadleaf and grass weeds, broadcast 10 - 20 quarts per acre. Hard to kill biennial and perennial weeds such as bull thistle and sow thistle, broadcast 20 - 40 quarts per acre. For longer residual control in regions of high rainfall and long growing season, broadcast 20 - 40 quarts per acre. For small areas, 1/4 pint per 1,000 sq. ft. is equivalent to 9 quarts per acre

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal

STORAGE INSTRUCTIONS: Storage should be under lock and key and secure from access by unauthorized persons and children. Storage should be in a cool, dry area away from any heat or ignition source. Avoid storage at high temperatures. Do not stack over 2 pallets high. Move containers by hand or with equipment. Do not move containers from one area to another unless they are securely sealed. Keep container tightly sealed when not in use. Keep away from any puncture source. Avoid storage near water supplies, food, feed and fertilizer to avoid contamination. Avoid contamination with acids or alkalis. Store in original containers only. If the contents are leaking or material is spilled, follow these steps:

- 1 — Contain spill, absorb with a material such as sawdust, clay or granules, or dirt
- 2 — Collect and place in suitable containers for disposal
- 3 — Wash area with water and soap to remove remaining pesticide
- 4 — Follow washing with clean water rinse
- 5 — Place a leaking container in a plastic tub and transfer contents as soon as possible to an empty original container
- 6 — Do not allow run off to enter sewer or contaminate water supplies
- 7 — Dispose of waste as indicated below

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility

CONTAINER DISPOSAL: Triple-rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or as allowed by state and local authorities, by burning. If burned, stay out of smoke

WARRANTY — CONDITION OF SALE

OUR RECOMMENDATIONS FOR USE of this product are based upon test believed relative. Follow directions carefully. Timing and method of application, weather and crop conditions, mixtures with other chemicals not specifically recommended and other influencing factors in the use of this product are beyond the control of the seller. Buyer assumes all risks of use, storage and handling of this material not in strict accordance with directions given herewith. In no case shall the Seller be liable for consequential, special or indirect damages resulting from the use or handling of this product when such use and/or handling is not in strict accordance with directions given herewith. The foregoing is a condition of sale by the seller and is accepted as such by the Buyer

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