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Atratul® 90

bare ground  
weed control

Herbicide

high suspensibility  
formulation

For nonselective weed control on  
industrial sites and noncrop areas

easy wetting

Do not use on agricultural lands

**Active Ingredients:**

Atrazine: 2-chloro-4-ethylamino-6- isopropylamino-s-triazine .....	85.5%
Related compounds .....	4.5%
<b>Inert Ingredients:</b>	<b>10.0%</b>
<b>Total:</b>	<b>100.0%</b>

Atratul 90 is a water  
dispersible granule

Keep Out of Reach of Children.

Caution

See additional precautionary statements  
on back of bag.

EPA Reg. No. 100-622  
EPA Est. 100-LA-1

See directions for use on back of bag.

25 Pounds  
Net Weight

CIBA-GEIGY

**ACCEPTED**  
**OCT 25 1983**  
Under Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the products registered under EPA Reg. No. 100-622

DIRECTIONS FOR USE AND CONDITIONS OF SALE AND WARRANTY

IMPORTANT: Read the entire Directions for Use and the Conditions of Sale and Warranty before using this product.

Conditions of Sale and Warranty

The Directions for Use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application all of which are beyond the control of CIBA-GEIGY or the Seller. All such risks shall be assumed by the Buyer.

CIBA-GEIGY warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the Directions for Use subject to the inherent risks referred to above. CIBA-GEIGY makes no other express or implied warranty of Fitness or Merchantability or any other express or implied warranty. In no case shall CIBA-GEIGY or the Seller be liable for consequential, special, or indirect damages resulting from the use or handling of this product. CIBA-GEIGY and the Seller offer this product, and the Buyer and user accept it, subject to the foregoing Conditions of Sale and Warranty, which may be varied only by agreement in writing signed by a duly authorized representative of CIBA-GEIGY.

Directions for Use

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

General Information

Atratul 90 is a nonselective herbicide for use on noncrop areas. Atratul 90 can be applied before or after plant growth begins. Although Atratul 90 has some foliage activity, most of its activity is through root absorption. Therefore, moisture is required to move it into the root zone. Very dry soil conditions and lack of sufficient rainfall may result in poor weed control. Postemergence applications should be made when weeds are young and growing actively.

Following many years of continuous use of this product and chemically related products, biotypes of some of the weeds listed on this label have been reported which cannot be effectively controlled by this and related herbicides. If this is known or suspected and weeds controlled by this product are expected to be present along with resistant biotypes, we recommend the use of this product in registered combinations or in sequence with other registered herbicides which are not triazines. If only resistant biotypes are expected to be present, use a registered non-triazine herbicide. Consult with your state Agricultural Extension Service for specific recommendations.

Use only in areas where complete control of broadleaf and grass vegetation is desired, such as 1) railroad, highway, and utility rights-of-way, 2) petroleum tank farms, 3) industrial sites, 4) lumberyards, 5) around warehouses and chemical plants, and 6) along industrial fence lines. When applied to the soil, this product usually inhibits plant growth for one year or more. It should not be used on land to be cropped or near adjacent desirable trees, shrubs or plants, or in greenhouses, as injury may occur. Do not allow livestock to graze treated areas.

Atratul 90 is noncorrosive to equipment.

REVISIONS

### Mixing Procedures

(1) Be sure sprayer is clean and not contaminated with any material, as sprayer clogging may result. (2) Fill tank 1/4 full with clean water, and start agitation. (3) Be certain that the agitation system is working properly and creates a rippling or rolling action on the liquid surface. (4) Pour product directly from bag into tank. (5) Continue filling tank until 90% full. Increase agitation if necessary to maintain surface action. (6) Add tank mix herbicides. (7) Complete filling tank, maintaining sufficient agitation at all times to ensure surface action. This applies to both spray and nurse tanks. (8) Empty tank as completely as possible before refilling to prevent buildup of emulsifiable concentrate residue. Always maintain agitation to avoid separation. (9) If an emulsifiable concentrate film starts to build up in tank, drain and clean with strong detergent solution or solvent. (10) Immediately after use, clean sprayer thoroughly by flushing system with water containing a detergent.

### Application Equipment

Use conventional ground sprayers equipped with nozzles that provide accurate and uniform application. Be certain that nozzles are uniformly spaced and the same size. Calibrate sprayer before use and recalibrate at the start of each season.

Use a pump with capacity to (1) maintain 35-40 psi at nozzles, (2) provide sufficient agitation in tank to keep mixture in suspension, and (3) to provide a minimum of 20% bypass at all times. Use centrifugal pumps which provide propeller shear action for dispersing and mixing this product. The pump should provide a minimum of 10 gals./minute/100 gals. tank size circulated through a correctly positioned sparger tube or jets.

Use screens to protect the pump and to prevent nozzles from clogging. Screens placed on suction side of pump should be 16-mesh or coarser. Do not place a screen in the recirculation line. Use 50-mesh or coarser screens between the pump and boom, and where required, at the nozzles. Check nozzle manufacturer's recommendations.

Application Rates - Atratul 90 Applied Alone

Use sufficient water to assure thorough ground and plant coverage. Use at least 1 gallon of water for each pound of Atratul 90; more water may be necessary where weed growth is heavy.

To control annual broadleaf and grass weeds (such as barnyardgrass, cheatgrass, crabgrass, foxtail, lambsquarters, puncturevine, and ragweed) and biennials (such as turkey mullein): Broadcast 5.3-11.1 lbs. of Atratul 90 per acre.

To control most annual and many perennial broadleaf and grass weeds (such as bluegrass, burdock, Canada thistle, dogfennel, orchardgrass, plantain, purpletop, quackgrass, redtop, and smooth brome): Broadcast 11.1-22.2 lbs. of Atratul 90 per acre.

To control hard-to-kill biennial and perennial weeds (such as bull thistle and sowthistle): Broadcast 22.2-44.4 lbs. of Atratul 90 per acre.

For longer residual control in regions of high rainfall and a long growing season, apply 22.2-44.4 lbs. of Atratul 90 per acre.

For small areas, 4 oz. per 1,000 sq. ft. is equivalent to 11.1 lbs. per acre.

Tank Mixtures

Atratul 90 plus Princep® 80W or Princep Caliber 90®

Use only for long-term control of broadleaf and grass vegetation in areas listed in respective labels. Do not use on cropland, or near desirable trees, shrubs or other plants, or in greenhouses, as injury may occur.

This tank mixture has similar activity and moisture requirements as described in above General Information section, except that Princep provides preemergence control only.

For best results, apply to soil shortly before weed growth begins or apply postemergence to young, actively growing plants not over 6 inches tall.

Use sufficient water for thorough soil and plant coverage. Use at least 1 gal. of water for each lb. of Atritol 90 plus Princep 80W or Caliber 90 combination. More water may be needed for heavy weed growth. Maintain agitation during mixing and application.

Broadcast tank mixtures at the following rates to control weeds listed. Use the lower rates for light weed infestations and the higher rates for heavier infestations.

Use 2.9-5.6 lbs. of Atritol 90 plus 3.25-6.25 lbs. of Princep 80W or 2.9-5.6 lbs. of Princep Caliber 90 per acre to control weeds listed in the General Information and the several crops sections of the Princep 80W and Princep Caliber 90 labels.

The above rates will also control California burclover, Orthocarpus purpurescens, ripgut brome, smooth catsear, summer lupine, and turkey mullein.

Use 5.6 lbs. of Atritol 90 plus 6.25 lbs. of Princep 80W or 5.6 lbs. of Princep Caliber 90 per acre to control burdock, daisy fleabane, goldenrod, horseweed, little mallow, milkweed, orchardgrass, quackgrass, Russian thistle, shortpod mustard, wild barley, and wood sorrel.

Use 11.1 lbs. of Atritol 90 plus 12.5 lbs. of Princep 80W or 11.1 lbs. of Princep Caliber 90 per acre to control evening-primrose, shepherds-needle, and tall fescue.

For small areas, 1/2 cup (4 oz.) of Atritol 90 or 2/3 cup (4.5 oz.) of Princep 80W or 1/2 cup (4 oz.) of Princep Caliber 90, per 1,000 sq. ft. is equivalent to 11.1 lbs. of Atritol 90 or 12.5 lbs. of Princep 80W or 11.1 lbs. of Princep Caliber 90 per acre, respectively.

#### Atritol 90 plus Diuron 80W

Use only for long-term control of broadleaf and grass vegetation in areas listed in respective labels. Do not use on cropland, or near desirable trees, shrubs or other plants, or in greenhouses, as injury may occur.

This tank mixture has activity and moisture requirements similar to that described in above General Information section and in the Diuron 80W label. For best results, apply to soil shortly before weed growth begins or apply to young, actively growing plants not over 6 inches tall. For increased contact activity, add a surfactant, such as Surfactant WK, at 2 qts. per 100 gals. of spray volume. Add surfactant as last ingredient to nearly full spray tank.

Use sufficient water for thorough ground and plant coverage. Use at least 1 gal. of water for each lb. of tank mixture. More water may be needed for heavy weed growth. Maintain agitation during mixing and application.

Broadcast tank mixtures at the following rates to control weeds listed. Use the lower rates for light weed infestations and the higher rates for heavier infestations.

Use 4.4-5.6 lbs. of Atraton 90 plus 5-6.25 lbs. of Diuron 80W, for example, Karmex® 80W, per acre to control weeds listed in crop and noncrop Directions for Use in the Diuron 80W label.

Use 5.6 lbs. of Atraton 90 plus 6.25 lbs. of Diuron 80W per acre to control broomsedge, buckhorn plantain, Carolina geranium, chicory, downy brome, eveningprimrose, fleabane, goldenrod, horseweed, lespedeza, little mallow, orchardgrass, Russian thistle, shortpod mustard, tall fescue, wild barley, and wood sorrel.

Use 11.1 lbs. of Atraton 90 plus 12.5 lbs. of Diuron 80W per acre to control alfalfa, black nightshade, leafy spurge, and shepherds-needle.

To determine compatibility of tank mixtures, thoroughly mix products in a small container at the ratio of 1 qt. of water to 1.75 oz. of Atraton 90 plus 2 oz. of Diuron 80W. Let stand for 5 minutes. If the mixture remains mixed, or can be remixed readily, it is compatible and can be sprayed.

For small areas, 1/2 cup (4 oz.) of Atraton 90 or 1.25 cups of Diuron 80W, such as Karmex 80W, per 1,000 sq. ft. is equivalent to 11.1 lbs. of Atraton 90 or 12.5 lbs. of Diuron 80W per acre.

Atraton 90 plus Ontrack® 8E *- added section*

Use only for control of annual grass weeds, or annual broadleaf and grass weeds on railroad rights-of-way.

Broadcast the tank mixture of Atraton 90 plus Ontrack 8E at rates of 5.3-11.1 lbs. plus 4 pts., respectively, in 50-100 gals. of water per acre to control barnyardgrass, crabgrass, fall panicum, giant foxtail, kochia, little barley, pigweed, ragweed, ripgut brome, Russian thistle, ryegrass, sprangletop, volunteer wheat, wild oats, and witchgrass. Use the lower rates in the rate range for light weed infestations and the higher rates for heavier infestations. Use no more than 4 pts. Ontrack 8E per acre in tank mixtures with Atraton.

For best results, apply immediately prior to weed emergence. The combination of Atratul 90 plus Ontrack 8E may also be applied after weeds emerge, but before they exceed 6 inches in height.

**Precautions:** Do not use near desirable trees, shrubs, plants or in greenhouses, or injury may occur.

Atratul 90 plus Oust® *— avoid in water*

Use this tank mixture to control the weeds listed below with either preemergence, early postemergence, or postemergence applications. Use the higher rates within the ranges given under conditions of heavy weed growth, on soil with over 2 1/2% organic matter, on areas with heavy decaying plant residues, or on high moisture areas such as along road edges or railroad shoulders. To improve wetting and/or contact activity on emerged weeds, add a nonionic surfactant such as DuPont Surfactant WK or X-77® at 1 qt. per 100 gals. of spray. Do not apply by aircraft. Provide constant agitation during mixing and application to keep the mixture in suspension. Refer to the labels of both herbicides for specific noncrop sites and further directions, precautions, and limitations.

Preemergence to Early Postemergence: To control the weeds listed below apply 4.4-8.9 lbs. of Atratul 90 plus 3-5 ounces of Oust in a minimum of 25 gals. of water per acre.

Broadleaf Weeds (Up to 3-4" in Height or Diameter)

- |                   |                    |
|-------------------|--------------------|
| bouncingbet       | ox-eye daisy       |
| buckhorn plantain | pigweed            |
| burclover         | prickly lettuce    |
| Carolina geranium | puncturevine       |
| common chickweed  | purple starthistle |
| common dandelion  | ragweed            |
| common speedwell  | Russian thistle    |
| common yarrow     | sowthistle         |
| crimson clover    | St. Johnswort      |
| dogfennel         | sunflower          |
| filaree           | sweet clover       |
| hoary cress,      | tansymustard       |
| horsetail         | tansy ragwort      |
| kochia            | tumble mustard     |
| lambquarters      | turkey mullein     |
| little mallow     | vetch              |
| mustard           | wild carrot        |
|                   | yellow rocket      |

Grasses (Up to 6-12" in Height)

Alta fescue	Ital ryegrass
annual bluegrass	johnsongrass
annual ryegrass	(short-term control)
bahia grass	litt?
barnyardgrass	red
cheatgrass	red 1
crabgrass	reed can. ryegrass
downy brome	ripgut brome
fall panicum	ryegrass
fescue	smooth brome
foxtails	sprangletop
Indian grass	witchgrass

Postemergence: To control actively growing weeds listed below apply 8.9-17.8 lbs. of Atraton 90 plus 6-12 ounces of Oust in a minimum of 25 gals. of water per acre.

Actively Growing Weeds

bedstraw	Jerusalem artichoke	johnsongrass
burdock	kudzu	(season-long control)
Canada thistle	mayweed	orchardgrass
curly dock	musk thistle	quackgrass
dewberry	plantain	redtop
fiddleneck	poison ivy	yellow nutsedge
fleabane	Spanishneedles	
goldenrod	Virginia pepperweed	
hemlock	wild blackberry	
hemp dogbane		
honeysuckle		

Storage and Disposal

Store in a dry place. Do not contaminate water, food, or feed by storage, disposal, or cleaning of equipment. Open dumping is prohibited. Pesticide, spray mixture, or rinsate that cannot be used according to label instructions must be disposed of according to federal, state, or local procedures under the Resource Conservation and Recovery Act. Dispose of bags according to approved federal, state, or local procedures under the Resource Conservation and Recovery Act.

Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION

Harmful if swallowed, inhaled, or absorbed through the skin. Avoid contact with eyes, prolonged contact with skin, and inhalation of dust. Wash thoroughly after handling and before eating or smoking. Remove and wash contaminated clothing before reuse.

First Aid: In case of contact with skin, wash with plenty of soap and water; with eyes, flush with water for 15 minutes and get medical attention if irritation persists. In case of inhalation exposure, move from contaminated area.

Environmental Hazards

Do not contaminate domestic or irrigation water supplies, or lakes, streams, or ponds. Do not contaminate water by cleaning of equipment or disposal of wastes. Do not apply when weather conditions favor drift from treated areas.

Atraton® trademark of CIBA-GEIGY

Caliber® trademark of CIBA-GEIGY

Ontrack® trademark of CIBA-GEIGY

Oust® trademark of E. I. duPont de Nemours Co., Inc.

Princep® trademark of CIBA-GEIGY for simazine

Karmex® trademark of E. I. duPont de Nemours & Co. for diuron

X-77® trademark of Kalo Agricultural Chemicals, Inc.

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