

# Retard™

## Liquid Growth Retardant

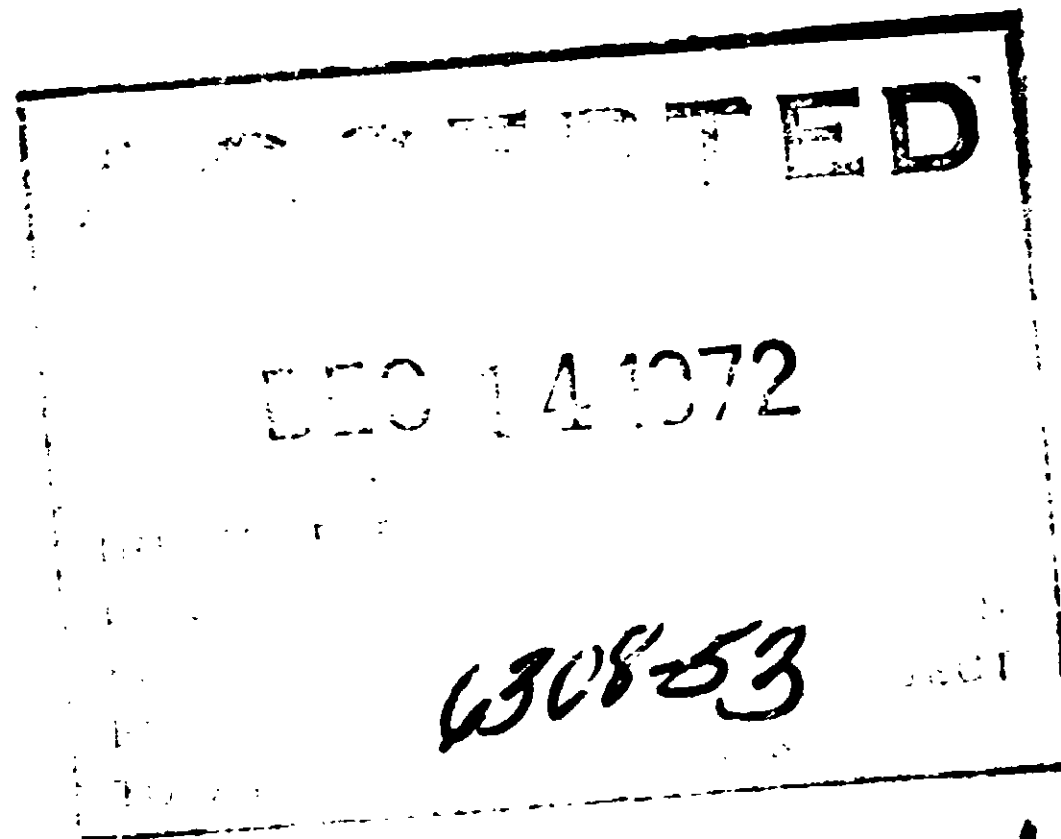
For Controlling  
Growth of Grass,  
Trees, Shrubs  
and Ivy

### ACTIVE INGREDIENTS:

Diethanolamine salt of  
hydroxy-3-(2H)-pyridazinone\* . . . 58%

### INERT INGREDIENTS: . . . . . 42%

\*Hereinafter called diethanolamine salt of  
maleic hydrazide. Equivalent to 30%  
maleic hydrazide. Product contains 3  
pounds maleic hydrazide equivalent  
per gallon.



**CAUTION:** Keep out of the reach of children. Avoid  
inhalation of mist. Avoid contact with skin, eyes or  
clothing. May be harmful if swallowed.  
**WARRANTY - CONDITION OF SALE: DIRECTIONS  
FOR USE** of this product are based on field use and  
tests believed reliable and should be followed carefully.  
It is however impossible to eliminate all risks associated  
with use of this product. Because such factors as weath-  
er conditions, foreign material and manner of use for  
application are all beyond the control of The Ansul  
Company or the Seller of this product, such things as  
crop injury, ineffectiveness or other unintended con-  
sequences may result. **ALL SUCH RISKS ARE ASSUM-  
ED BY THE BUYER.**

Ansul warrants that this product conforms to the chemi-  
cal description on the label and is reasonably fit for the  
purposes referred to in the directions for use as modi-  
fied by the above. Ansul makes no other warranties,  
express or implied, including **FITNESS** or **MERCHANT-  
ABILITY**. In no case shall Ansul or the Seller be liable  
for consequential, special or indirect damages resulting  
from the use or handling of this product. The foregoing  
is a condition of sale by The Ansul Company and is  
accepted as such by the Buyer.

**CONTAINER DISPOSAL:** Chop holes in top and  
bottom. Bury 18" below soil surface at safe disposal  
site. Never reuse for food or water.

### DIRECTIONS FOR USE:

**For Inhibition of Growth of Trees, Shrubs and Ivy:**  
RETARD will inhibit growth of various trees, shrubs  
and ivy. The plants should first be pruned into the  
desirable shape. After regrowth of 2 to 4 inches occurs,  
spray on the RETARD. RETARD can also be applied in  
spring as soon as new leaves have expanded.

The following tree species can be treated: sycamore,  
willow, alder, poplar, oak, mulberry, black walnut,  
maple, sweet gum, elm and tamarack.

The following shrubs can be treated: privet, pyracantha,  
Myrtus, Xylocmas, Viburnum, Eugenia, Pittosporum,  
Cissus, Hahns Ivy, Algerian Ivy, honeysuckle, Forsythia  
and ice plant.

**Directions For Use:** The following spray solution should  
be sprayed on the upper half of the tree if top terminal  
growth is to be inhibited. If the side of a tree is to be  
inhibited, spray the half of the tree on the pruned side.  
For shrubs and ivy, spray all surfaces of the leaves and  
bark.

Add 1 1/3 gallons RETARD to 100 gallons of water.  
Spray this concentration to wet all surfaces of leaves  
and bark to the point of drip (not run-off).

Compressed Air Shoulder Sprayer - Add 4 tablespoons  
RETARD in one gallon of water and spray to wet all  
surfaces to the point of drip (not run-off).

Hose-on attachments can be used to spray trees and  
shrubs. Wet all surfaces of leaves and bark. Consult  
instructions on applicator for delivering the equivalent  
of 1 1/3 gallons RETARD in 100 gallons of water.

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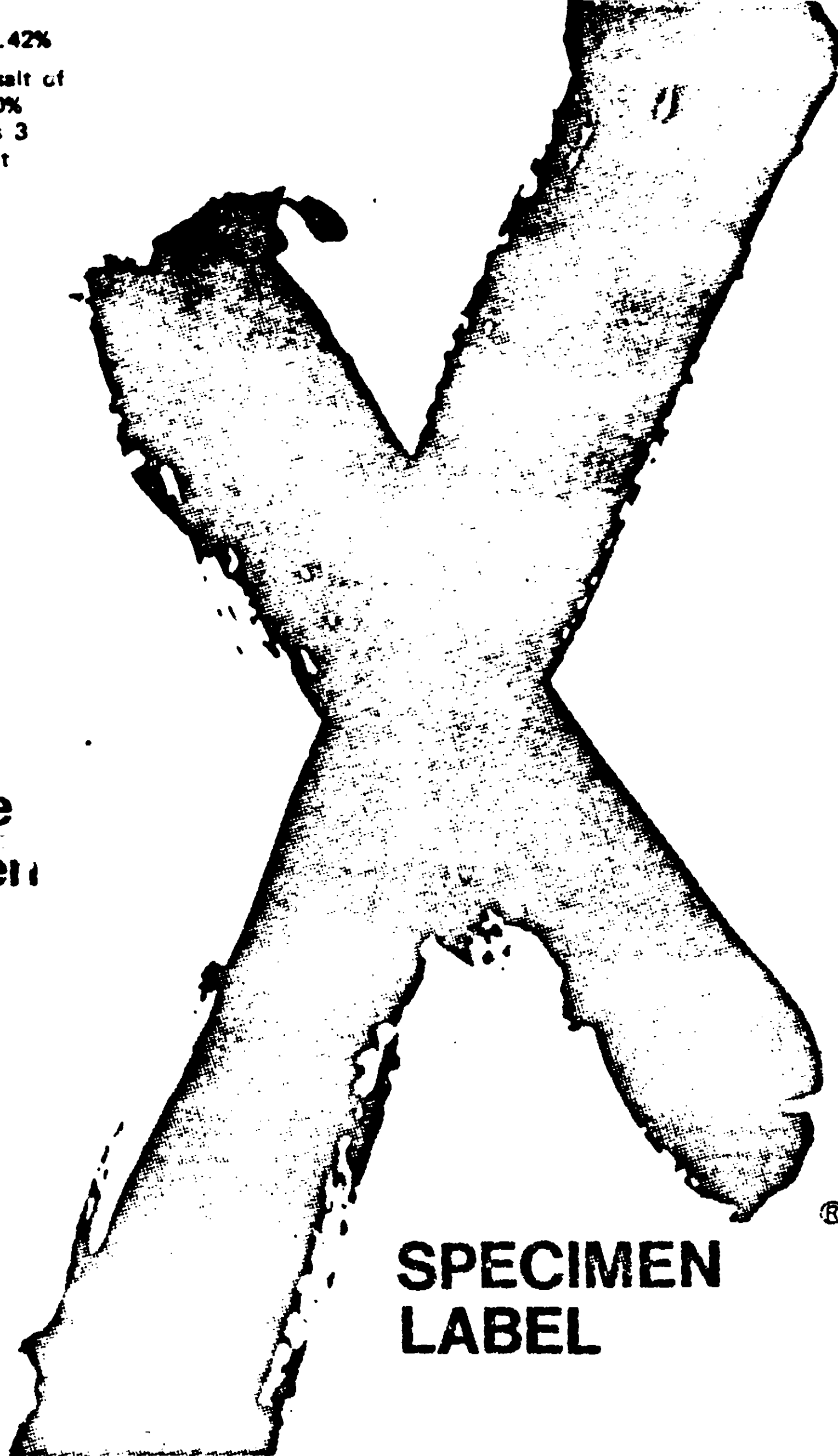


**ACTIVE INGREDIENTS: . . . . . 42%**

Hereinafter called diethanolamine salt of maleic hydrazide. Equivalent to 30% maleic hydrazide. Product contains 3 pounds maleic hydrazide equivalent per gallon.

**CAUTION:**  
Keep out of the reach of children

Read entire label before using this product



**SPECIMEN LABEL**

to sprayed on the upper part of the tree trunk. Growth is to be inhibited. If the side of a tree is to be inhibited, spray the half of the tree on the pruned side. For shrubs and ivy, spray all surfaces of the leaves and bark.

Add 1 1/3 gallons RETARD to 100 gallons of water. Spray this concentration to wet all surfaces of leaves and bark to the point of drip (not run-off).

Compressed Air Shoulder Sprayer - Add 4 tablespoons RETARD in one gallon of water and spray to wet all surfaces to the point of drip (not run-off).

Hose-on attachments can be used to spray trees and shrubs. Wet all surfaces of leaves and bark. Consult instructions on applicator for delivering the equivalent of 1 1/3 gallons RETARD in 100 gallons of water (equals 4 tablespoons RETARD in 1 gallon of water).

10X Concentrate Spray - Concentrate spray equipment can be used replacing 90% of the water normally used in dilute sprays. Consult us for specific instructions if you plan to use a concentrate spray.

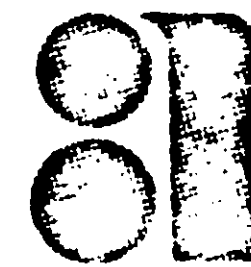
(Note -- Under western dry conditions add 1 quart Colloidal Products Corp. Multifilm X77 to each 100 gallons of spray dilution on trees and shrubs. For the 10X concentrate add 2 quarts Multifilm X77 to 100 gallons of water. Addition of this material is not necessary in the rest of the country.)

When to Spray Trees and Shrubs -- Best results are obtained when the spray is applied to vigorous new growth. For example:

1. In spring just as the new leaves have expanded and new growth has started.
2. In summer after pruning and new regrowth is 2 to 4 inches in length.

**How RETARD Inhibits Grass Growth:** RETARD is absorbed into the green grass blades and translocated by the plant fluids to the active growth areas of the plant where cell division is retarded. RETARD prevents seed head formation and slows down leaf growth. If an area is not mowed after RETARD is applied, the turf will slowly grow to 6 or 12 inches in height by the end of the growing season as the effect of the RETARD gradually "wears off".

If RETARD is not applied before the seed head is formed, the seed head will expand in spite of the presence of RETARD. If this occurs, at least one week should then be allowed for the RETARD to circulate throughout the plant. The area should then be mowed to no



THE ANSUL COMPANY, MARINETTE, WISCONSIN

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Ansul 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 as modified by the above. Ansul makes no other warranties, express or implied, including **FITNESS or MERCHANTABILITY.** In no case shall Ansul or the Seller be liable for consequential, special or indirect damages resulting from the use or handling of this product. The foregoing is a condition of sale by The Ansul Company and is accepted as such by the Buyer.

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**DIRECTIONS FOR USE:**

**For Inhibition of Growth of Trees, Shrubs and Ivy:** RETARD will inhibit growth of various trees, shrubs and ivy. The plants should first be pruned into the desirable shape. After regrowth of 2 to 4 inches occurs, spray on the RETARD. RETARD can also be applied in spring as soon as new leaves have expanded.

The following tree species can be treated: sycamore, willow, alder, poplar, oak, mulberry, black walnut, maple, sweet gum, elm and tamarack.

The following shrubs can be treated: privet, pyracantha, Myrtus, Xylosmas, Viburnum, Eugenia, Pittosporum, Cissus, Mahns Ivy, Algerian Ivy, honeysuckle, Forsythia and ice plant.

**Directions For Use:** The following spray solution should be sprayed on the upper half of the tree if top terminal growth is to be inhibited. If the side of a tree is to be inhibited, spray the half of the tree on the pruned side. For shrubs and ivy, spray all surfaces of the leaves and bark.

Add 1 1/3 gallons RETARD to 100 gallons of water. Spray this concentration to wet all surfaces of leaves and bark to the point of drip (not run-off).

**Compressed Air Shoulder Sprayer** -- Add 4 tablespoons RETARD in one gallon of water and spray to wet all surfaces to the point of drip (not run-off).

Hose-on attachments can be used to spray trees and shrubs. Wet all surfaces of leaves and bark. Consult instructions on applicator for delivering the equivalent of 1 1/3 gallons RETARD in 100 gallons of water (equals 4 tablespoons RETARD in 1 gallon of water).

**10X Concentrate Spray** -- Concentrate spray equipment can be used replacing 90% of the water normally used in dilute sprays. Consult us for specific instructions if you plan to use a concentrate spray.

lers than s in height. Inhibition of subsequent growth will be observed.

If a neatly mowed appearance is required, the RETARD application should be supplemented by mowing.

**Directions For Use:** Apply RETARD to green grass since brown grass will not absorb the spray. One application per year made either in the fall or the spring followed by correct maintenance procedures, will produce required turf growth control.

**Spring application (about April 10 -- June 1) -- Use 1 1/3 gallons RETARD in 50 gallons of water per acre to reduce or eliminate mowing.**

The two week period in the spring when the grass has grown 2 to 4 inches is ideal for applying RETARD. This is the period when forsythia and dandelion are in full bloom. The grass is in a vigorous growing condition and will absorb the chemical at the maximum rate. It will prevent seed head formation and inhibit growth of foliage. If spraying is delayed beyond this period, a mowing may be required to trim the area to improve appearance. Allow one week for translocation of the chemical before this mowing. Do not spray newly mowed areas covered with debris -- this will interfere with coverage and absorption, causing poor results.

**Fall Application (about Oct. 1 -- Nov. 15) -- Use 1 2/3 gallons RETARD in 50 gallons of water per acre to reduce growth next season.** The fall treatment is applied to green grass before it becomes dormant. Since growth is inhibited the following spring, the area will "green up" about two weeks later than untreated grass. Apply the RETARD as close to the time the grass becomes dormant as possible but when it is still green. Do not spray when there is a cover of fallen leaves as this will interfere with coverage and absorption, causing poor results. RETARD will control wild onion and garlic and biennial type weeds such as dandelion and plantain when applied in the fall.

Do not apply during the summer (June 1 -- Sept. 25) since most permanent grasses become partially dormant in summer. (The major reason for summer mowing is the presence of annual grasses and weeds which will have to be controlled with herbicides or mowing since they are not present when RETARD is applied to the perennial grasses.)

**Controlling Annual Blue Grass:** To reduce Poa annua (annual blue grass) in golf course fairways, first mow area twice in normal sequence, usually 5 to 8 days apart. When third mowing is needed, before the first Poa annua seed heads appear, spray 1 quart of RETARD in 30 to 40 gallons of water per acre. (If over 40 gallons of water are used per acre, the effectiveness may be reduced.) The effect of treatment should be evident in 8 to 10 days.

This "light" treatment of RETARD eliminates or greatly reduces reseeding of Poa annua with little retarding of grass growth.

**Overseeding Ryegrass in Bermuda Grass:** Excessive growth of Bermuda grass on golf greens is often a problem in the fall after verticutting, fertilization, overseeding and top dressing.

Apply RETARD in late September or early October, to inhibit the growth of Bermuda grass and enable rye or

RETARD. A series of nozzles activated by valves controlled within the cab permits application at 10 to 15 miles per hour covering all types of terrain found along highways. The off-center nozzle will cover up to 30 feet from the road on calm days

**B. Booms:**

1. The Burg-Bean boom gives excellent coverage when properly calibrated and operated. Smaller amounts of water (30 to 50 gallons per acre) may be used when applying RETARD with booms.
2. Small booms mounted on tractors or jeeps are satisfactory when properly nozzled, calibrated and operated. Booms are advised only when there are few or no obstructions.

**C. Air Carry Method (Modified Air Blast Sprayer).** This is the newest method for applying RETARD. Large, low-pressure droplets ride the air stream and deposit RETARD on the difficult to mow areas. It is the only equipment that will economically and satisfactorily apply RETARD over wide areas (up to 90 ft.). It will easily cover all types of terrain on shoulders and medians.

**Use of 2,4-D:** 2,4-D may be used with RETARD when control of broadleaf weeds is desired in turf. A low volatile ester or amine salt formulation is compatible with RETARD.

In some areas weeds may emerge after RETARD is applied. A second application of 2,4-D would be necessary to control these weeds.

**Use 2,4-D only on grasses recommended by the manufacturer's label. Follow manufacturer's label when handling or spraying 2,4-D to prevent drift.**

**Effect of Rain on Treatment:** RETARD should be applied during a period when rain is not expected for 12 hours after treatment. Since RETARD is water soluble a rain will wash the chemical off the leaf blade before absorption occurs. Once RETARD is absorbed, rain has no effect on performance.

**Where Should RETARD be Used:** RETARD should be used on good turf, three or more years old, which needs frequent mowing, and areas difficult to mow. RETARD will improve the safety of mowing by reducing the need for frequent mowing of hazardous locations and eliminating mowing of cuts and fills where a seasonal growth up to 6 to 11 inches can be tolerated.

**Conditions Affecting Absorption of RETARD by Grass:** It has been found that a greater amount of RETARD will enter the leaf in the shortest time and give the best results when the plants are growing rapidly in moist soil. RETARD is not absorbed well when:

1. Leaves are wilted and,
2. During periods of extended drought when the soil is dry.

**Notes:**

1. Do not pasture livestock in, or cut hay from, treated areas.
2. RETARD can be used along highways, airports, military installations, golf course fairways, roughs and similar areas. Do not feed treated foliage to livestock or graze treated areas.
3. At recommended application rates RETARD does not normally affect the color of grass. Under condi-



inhibited, spray the hair of the tree on the pruned side. For shrubs and ivy, spray all surfaces of the leaves and bark.

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**Overseeding Ryegrass in Bermuda Grass:** Excessive growth of Bermuda grass on golf greens is often a problem in the fall after verticutting, fertilization, overseeding and top dressing.

Apply RETARD in late September or early October, to inhibit the growth of Bermuda grass and enable rye or other grasses to produce a good stand. Use 2/3 gallons of RETARD in 50 gallons of water per acre. RETARD should be applied with a calibrated boom. The Bermuda grass must be in good condition. Overseed no sooner than 48 hours after spraying.

**To Inhibit Grass Along Edges of Home Lawns** (See Note Number 3): Apply the equivalent of 1 1/3 gallons RETARD in 100 gallons of water per acre in spring (about April 10 - June 1) to a 6 inch band along sidewalks and edges of shrubs and trees.

For a compressed air shoulder sprayer add 4 tablespoons RETARD in 1 gallon of water and spray a 6 inch band 800 feet long.

Hose-on attachments can be used for edging of lawns. Consult instructions on applicator for delivering the dosage recommended for edging.

**Equipment to Apply RETARD:** It is essential that RETARD be applied uniformly with the proper equipment.

**Recommended Equipment:**

A. Trucks in all cases should be equipped with a special speedometer or tachometer reading from 0 to 15 miles per hour. Truck speedometers are generally inaccurate at this low speed.

A centrifugal pump with a capacity of 100 gallons per minute and 50 pounds nozzle pressure plus off-center nozzles are recommended for applying

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1. Leaves are wilted and,
2. During periods of extended drought when the soil is dry.

**Notes:**

1. Do not pasture livestock in, or cut hay from, treated areas.
2. RETARD can be used along highways, airports, military installations, golf course fairways, roughs and similar areas. Do not feed treated foliage to livestock or graze treated areas.
3. At recommended application rates RETARD does not normally affect the color of grass. Under conditions of optimum absorption, color modification for a period of several weeks may be encountered. At times treated grass may be a greener color than untreated grass. It may also remain greener for a longer period under drought conditions. No adverse effects on color have been observed from fall application. Some delay in spring "green up" is normal.
4. Do not spray on trees when wind velocity exceeds 15 mph.

RETARD is manufactured by The Ansul Company, Marinette, Wisconsin 54143.

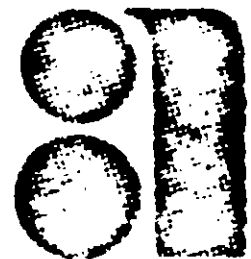
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Net Contents 5 Gallons

EPA Reg. No. 6308-53

Form No.

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THE ANSUL COMPANY, MARINETTE, WISCONSIN

New Disclaimer Statement Added To Label as Follows:

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ACCEPTED  
12-14-72  
UNLESS OTHERWISE SPECIFIED  
FOR THE PURPOSES OF THE ACT  
EFFECTIVE FROM JANUARY 1, 1973  
EQUATION NO. 6308-53

*(Signature)*