



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

file

Jan - 8 1994

BARBARA BROWN
DREXEL CHEMICAL COMPANY
BOX 9306
MEMPHIS, TN. 38109

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Subject: Label Amendment Submission of 9/24/93 In Response to PR Notice 93-7
EPA Reg. No. 19713-1
RETARD

IMPORTANT NOTICE: This Letter Requires You to Submit a Notification to the Office of Compliance Monitoring within 20 Days.

Dear Registrant:

The labeling cited above and submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is accepted subject to the comments listed on the enclosed sheet. A copy of your proposed labeling stamped "ACCEPTED WITH COMMENTS" is enclosed.

SERIOUS ERROR(S) ON SUBMITTED LABELING:

EPA has determined that one or more of the errors on the labeling you submitted to the Agency is categorized as "serious" as defined in PR Notice 93-11. In general, serious errors are those that may create a potential for harm to workers, handlers, other persons, or the environment; or those that prevent the achievement of the basic goals of the Worker Protection Standard (WPS) or FIFRA.

YOU MUST NOT SELL OR DISTRIBUTE (INCLUDING RELEASE FOR SHIPMENT) ANY PRODUCT BEARING THE SUBMITTED LABELING. Sale or distribution of any product with the incorrect labeling is a violation of FIFRA that could result in initiation of an action for civil penalties and/or cancellation of your product. This matter has been referred to the Office of Compliance Monitoring (OCM) for further action.

YOU MUST SUBMIT A NOTIFICATION TO THE OFFICE OF COMPLIANCE MONITORING WITHIN 20 DAYS OF THE DATE OF THIS LETTER.



Recycled/Recyclable
Printed with Soy/Canola Ink on paper that
contains at least 50% recycled fiber

Each notification must include the following information:

1. Registrant's name and address.
2. EPA Registration number of the product for which the labeling was submitted.
3. Whether any product already has been sold or distributed (this includes released for shipment) bearing the submitted labeling.

In addition, the notification must include the following information, IF you have already sold or distributed any product bearing the submitted labeling:

1. Quantity of the product that has been sold or distributed.
2. EPA Producing Establishment number.
3. Location of the product, if known.
4. Proposed plan for assuring that product with the incorrect labeling in your control, as well as that in the hands of dealers/distributors/users, will be corrected. The plan must include your proposal for assuring that the labeling is corrected as soon as possible.

Submit the notification to:

Michael Wood, Director
Compliance Division, (7203)
Worker Protection Notification
Office of Compliance Monitoring
U.S. Environmental Protection Agency
401 M Street SW
Washington, DC 20460

Failure to submit a notification also may result in initiation of an action under FIFRA for civil penalties, if you sold or distributed (this includes released for shipment) product bearing the incorrect labeling.

IN ADDITION, YOU SHOULD CONTACT IMMEDIATELY THE PERSONS TO WHOM YOU SOLD OR DISTRIBUTED YOUR PRODUCT AND INFORM THEM NOT TO SELL OR DISTRIBUTE ANY PRODUCT WITH THE INCORRECT LABELING.

WHAT THIS ACCEPTANCE MEANS:

Based on your certification, the Agency has accepted the labeling changes that are necessary to comply with the WPS labeling requirements of 40 CFR part 156, subpart K, described in PR Notices 93-7 and 93-11. Any other labeling changes submitted in connection with this amendment application but not directly related to compliance with the WPS have neither been reviewed nor accepted by the Agency. If you wish to make such changes, you must submit a separate amendment application proposing them. If your product is currently suspended, the acceptance of this labeling amendment does not affect the suspension in any way.

WHAT YOU NEED TO DO NEXT:

Submit the required notification. Then by the next label printing make all the specified changes to your labeling. Send to EPA one (1) copy of the final printed labeling:

- **BEFORE** selling or distributing any product bearing the final printed labeling as amended

AND

- **WITHIN** one year from date of this acceptance.

Submit the final printed labeling via the U.S. Postal Service to:

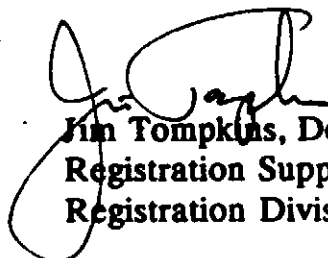
Document Processing Desk (FIN-LABEL)
 Office of Pesticide Programs (7505C)
 U.S. Environmental Protection Agency
 401 M Street, SW
 Washington, D.C. 20460-0001

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Hand or courier deliveries of final labeling may be made to:

Document Processing Desk (FIN-LABEL)
Office of Pesticide Programs
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

Sincerely,



Jim Tompkins, Deputy Chief
Registration Support Branch
Registration Division (7505W)

Attachment

cc: Office of Compliance Monitoring

RETARD
Liquid Growth Retardant

ACTIVE INGREDIENT:

Potassium salt of 6-hydroxy- 3-(2H)-pyridazinone*	30.2%
INERT INGREDIENTS:	69.8%
TOTAL:	100.0%

*Hereafter called potassium salt of maleic hydrazide.
Product contains 2.25 pounds maleic hydrazide equivalent per gallon.

KEEP OUT OF REACH OF CHILDREN
CAUTION

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 persists.

IF ON SKIN: ~~Immediately remove contaminated clothing, INCLUDING SHOES, and~~ wash skin with soap and plenty of water. If irritation develops, send for a physician.

EPA REG. NO. 19713-1

EPA EST. NO. 19713-TN-1

NET CONTENTS:

Correction of our previous submission on July 23, 1993

MANUFACTURED BY:

DREXEL CHEMICAL COMPANY

P.O. BOX 9306 - MEMPHIS, TN 38109

Revised: September 13, 1993

RETARD.DOC

7/8/93

ACCEPTED
with COMMENTS
in EPA Letter Dated

1994

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

19713-1

PRECAUTIONARY STATEMENTS**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

CAUTION: Harmful if swallowed. Avoid breathing dust or spray mist. Avoid contact with skin, eyes or clothing.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Handlers who may be exposed to the dilute through application or other tasks must wear:

Long-sleeved shirt and long pants

Shoes and socks

Handlers who may be exposed to the concentrate through mixing, loading, application or other tasks must wear:

Long-sleeved shirt and long pants

Shoes and socks

Waterproof gloves

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

For terrestrial uses, do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water by disposal of equipment washwaters.

DIRECTIONS FOR USE

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

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

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

Personal Protective Equipment required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soils or water is:

Coveralls

Waterproof gloves

Shoes and sock

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 2-4 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, sweet gum, elm and tamarack.

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

HOW TO APPLY: The following spray solution should be sprayed in 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 - Air Shoulder Sprayer - Add 4 tbsp. RETARD to 1 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 instruction on applicator for delivering the equivalent of 1 1/3 gallons RETARD in 100 gallons of water (equals 4 tbsp. 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.

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 2-4 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 less than 4 inches in height. Inhibition of subsequent growth will then be observed.

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

HOW TO APPLY: 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 2-4 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 October 1-November 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-September 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 5-8 days apart. When third mowing is needed, before the first *Poa annua* seed heads appear spray 1 qt. of RETARD in 30-40 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 8-10 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 other grasses to produce a good stand. Use 2/3 gallon 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 4): Apply the equivalent of 1/3 gallon 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 tbsp. RETARD in 1 gallon of water and spray 6 inch band 800 feet long.

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

TO CONTROL WILD ONIONS AND WILD GARLIC IN LAWNS AND GRASS AREAS ALONG HIGHWAYS (NOT PASTURE OR CROP LAND): Apply 1-2 gallons RETARD in 20-100 gallons of water per acre in spring or fall when about 90-95% of the bulbs have started regrowth. Use on lawns only when grass is brown and dormant. (See Note Number 8).

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 0-15 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 RETARD. A series of nozzles activated by valves controlled within the cab permits application at 10-15 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 30-50 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 Methods (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 6-11 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 when (1) leaves are wilted and (2) during periods of extended drought when the soil is dry.

NOTES:

1. At 40 degree fahrenheit and below, the formulation will form solids. It readily redissolves but must be warmed to 50 degrees fahrenheit or above. The larger the container the more time is needed to completely redissolve the precipitate.
2. Do not pasture livestock in, or cut hay from treated areas.
3. 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.

4. 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.
5. Do not spray on trees when wind velocity exceeds 15 miles per hour.
6. RETARD is not corrosive to spray equipment.
7. Rinse spray equipment with water after applications. Do not contaminate water by cleaning of equipment, or disposal of wastes.
8. For control of wild onions and garlic do not apply to young seedlings less than one season old or winter pastures consisting of small grains such as rye.

STORAGE AND DISPOSAL

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

STORAGE INSTRUCTIONS

Storage should be under lock and key in a ventilated room and secure from access by unauthorized persons and children. Storage should be in a cool dry area away from heat or ignition source. Do not stack over 2 pallets high. Move containers by handles or case. 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. 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 granules or dirt.
2. Collect and place in suitable containers for disposal.
3. Wash area with water and soap to remove remaining pesticides.
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.

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 by 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 tests 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 Drexel or the Seller be liable for consequential, special or indirect damages resulting from the use or handling of this product when such use/or handling is not in strict accordance with directions given herewith. The foregoing is a condition of sale by Drexel Chemical Company and is accepted as such by the Buyer.