

20 JUL 1993

Mr. Russell F. Sawyer
Riverdale Chemical Company
425 West 194th street
Glenwood, Illinois 60425-1584

Dear Mr. Sawyer:

Subject: Label Amendment
Riverdale 2D + 2DP Amine
EPA Registration Number 228-221
Your Submission Dated March 24, 1993

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable provided the following changes are made:

1. Under the Note to Physician, delete the word drainage and replace it with damage
2. Under the Environmental Hazards statement, delete "for wetlands (swamps, bogs, marshes, and potholes)," and replace this with "to areas where surface water is present or to intertidal areas below the mean high water mark."

A stamped copy is enclosed for your records. Please submit three copies of final printed labeling with the above corrections made. The Agency does note that you certified that all containers of the above mentioned product produced by October 23, 1993, will bear revised labeling in accordance with the revised labeling required for Task Force technical and manufacturing use products.

Sincerely yours,

Joanne I. Miller
Product Manager (23)
Fungicide Herbicide Branch
Registration Division (H7505C)

Enclosure

BEST AVAILABLE COPY

CONCURRENCES

SYMBOL	H7505C							
SURNAME	Robbins							
DATE	7/19/93							

278
with COMMENTS
in EPA Letter Dated

20 JUL 1993

RIVERDALE

2D + 2DP AMINE

Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.
228-221

A WOODY PLANT HERBICIDE FOR CONTROLLING MIXED BRUSH ON UTILITY RIGHTS OF WAY,
HIGHWAYS, DRAINAGE DITCHBANKS, FENCE ROWS AND SOLID STANDS OF OAK OR ELM.
CONTROLS NOXIOUS PERENNIAL WEEDS ON NON-CROPLAND.

ALSO CONTROLS ANNUAL AND PERENNIAL BROADLEAF WEEDS IN ORNAMENTAL TURF
AREAS, LAWNS, GOLF COURSES, PARKS, ATHLETIC FIELDS, AND SIMILAR SITES.

ACTIVE INGREDIENTS:

Dimethylamine Salt of 2,4-Dichlorophenoxyacetic Acid* 22.8%
Dimethylamine Salt of 2-(2,4-Dichlorophenoxy)propionic Acid** 23.2%

INERT INGREDIENTS: 54.0%
TOTAL 100.0%

Isomer Specific AOAC Method, Equivalent to:

*2,4-Dichlorophenoxyacetic Acid 18.9%, 1.88 lbs./gallon
**2-(2,4-Dichlorophenoxy)propionic Acid 19.5%, 1.89 lbs./gallon

For use by professional turf maintenance personnel, landscaping
or commercial applicators only

KEEP OUT OF REACH OF CHILDREN

DANGER - PELIGRO

PRECAUCION AL USUARIO: Si usted no lee ingles, no use este producto hasta que la
etiqueta le haya sido explicada ampliamente.

SEE SIDE PANELS FOR ADDITIONAL PRECAUTIONARY STATEMENTS
AND STATEMENT OF PRACTICAL TREATMENT

NET CONTENTS GALS.

EPA REG. NO. 228-221

EPA EST. NO. 228-IL-1

MANUFACTURED BY

RIVERDALE CHEMICAL COMPANY

GLENWOOD, ILLINOIS 60425-1584

: Spanish language is optional

ed A/O 3/16/93

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER - PELIGRO

Corrosive, causes irreversible eye damage. Harmful if swallowed or absorbed through the skin. Do not get in eyes, on skin, or on clothing. Wear goggles, face shield or safety glasses. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

STATEMENT OF PRACTICAL TREATMENT

IF IN EYES: Flush with plenty of water. Call a physician.
IF ON SKIN: Wash with plenty of soap and water. Get medical attention.
IF SWALLOWED: Promptly drink a large quantity of milk, egg whites, gelatin solution, or if these are not available, drink large quantities of water. Avoid alcohol.

NOTE TO PHYSICIAN: Probable mucosal drainage may contraindicate the use of gastric lavage.

ENVIRONMENTAL HAZARDS

This product is toxic to aquatic invertebrates. Drift or run-off may adversely affect aquatic invertebrates and non-target plants. Do not apply directly to water or wetlands (swamps, bogs, marshes, and potholes). When cleaning equipment, do not pour washwaters on the ground, spray or drain over a large area away from wells and other water sources. Do not contaminate water when disposing of equipment washwaters. Do not apply this product through any type of irrigation system. Do not contaminate irrigation ditches or water used for domestic purposes. If spills occur, collect the material and dispose of by following disposal instructions on this label. Use care to avoid spray contact or drift to 2,4-D or 2,4-DP susceptible plants such as okra, cotton, tomatoes, flowers, grapes, fruit trees, vegetables and ornamentals. Do not permit spray mist containing this product to drift onto them since even very small quantities of the spray, which may not be visible, can cause severe injury during both growing and dormant periods. Do not spray when the wind is blowing towards susceptible crops or ornamental plants. Use coarse sprays to minimize drift. Spray drift can be lessened by keeping the spray boom as low as possible; by applying 20 gallons or more of spray per acre; by using 20 pounds spraying pressure with flat fan or flooding flat fan nozzle tips; by spraying when wind velocity is low; and, by stopping all spraying when wind exceeds 6 to 7 miles per hour. Do not apply with hollow cone-type insecticide or other nozzles that produce a fine droplet spray. Do not use in greenhouses. Do not use the same spray equipment for applying other materials to 2,4-D susceptible crops as injury may result.

Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D and 2,4-DP have been associated with mixing/loading and disposal sites. Caution should be exercised when handling these pesticides at such sites to prevent contamination of groundwater supplies. Use of closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

DIRECTIONS FOR USE

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

BRUSH CONTROL

RIVERDALE 2D + 2DP AMINE is specifically designed for utilities and other industrial users to control woody plants. This product also controls many noxious perennial weeds on non-croplands, such as along highways, drainage ditchbanks and fence rows. The following is a partial list of weeds controlled: Alder, Ash*, Aspen, Birch, Blackberry, Black cherry, Black jack oak, Black locust, Box elder, Brambles, Buckbrush, Ceanothus, Chamise, Coffeeberry, Currant, Dewberry, Dogwood, Elderberry, Elms, Fir, Gooseberry, Greenbrier, Gum, Hemlock, Honeysuckle, Kudzuvine, Locust, Manzanita, Maples*, Multifloral rose, Oaks, Osage orange, Palmetto, Persimmon*, Pine, Poison ivy, Poison oak, Poplar, Raspberry, Red elder, Salmonberry, Sand sagebrush, Sassafras, Serviceberry, Shinnery oak, Snowberry, Spicebush, Spruce, Sumac, Sweetgum, Sycamore, Tulip poplar, Virginia creeper, Wild cherry, Wild grape, Wild rose, Willow, Winged elm, Yerba santa, and many other species.

) *Best controlled by Stump or Basal Treatment

TO PREPARE THE SPRAY: Add one-half the required amount of water to the spray tank, then add this product with agitation and finally, the balance of the water with agitation. This material forms a true solution in water. It does not require additional agitation after the initial thorough mixing, and does not volatilize under proper spraying conditions.

FOLIAGE STEM TREATMENT: This is the standard method for high-volume sprays along fence rows, highways and rights-of-way. Use as a first spray on thick brush composed of mixed species. Apply to both stems and foliage from the time foliage is completely matured until the plants start to go dormant. All leaves, stems and suckers must be completely wet to the ground line for effective control. Regrowth may be anticipated on the more resistant species, such as oak, maple, ash and persimmon. Add 1-1½ gallons of RIVERDALE 2D + 2DP AMINE to 100 gallons of water using 200-600 gallons of spray mixture per acre, depending upon the height and thickness of the brush. Mix thoroughly before spraying.)

SPOT TREATMENT: For spraying with backpack sprayer - mix 1 cup (8 oz.) RIVERDALE 2D + 2DP AMINE with 5 gallons of water. Wet brush stems and foliage thoroughly.

BASAL BARK TREATMENT: Thoroughly wet the base and root collar of all stems until the spray accumulates around the root collar at the ground line. This spray may be applied during any season. Use RIVERDALE 2D + 2DP AMINE for basal bark treatment on scattered brush or as a second spray application on species resistant to first foliage application. Mix 3-4 gallons of RIVERDALE 2D + 2DP AMINE in 100 gallons of water. Apply with a low volume sprayer or power equipment. Application rate will depend on species present, season applied and volume of spray used. Use a coarse spray to avoid drift.

MODIFIED BASAL TREATMENT: Drench the base of plants, then wet the lower 4/5 of remaining stems and leaves thoroughly to runoff. Apply treatment when brush is in full foliage. This method can be applied where susceptible species have been controlled by prior sprays and more resistant species, such as maple and oak, remain. Soaking the

base of the plant and wetting all stems to runoff is absolutely necessary for complete control.

EARLY AND LATTER PART OF SPRAYING SEASON, AND DURING DRY WEATHER: Add $1\frac{1}{2}$ gallons of RIVERDALE 2D + 2DP AMINE to 100 gallons of water and mix thoroughly.

CUT SURFACE TREATMENT - STUMPS: This treatment may be used anytime of the year, however, it is more effective when applied as quickly as possible after trees are cut. Spray the entire stump, especially exposed roots and bark. A complete soaking is essential for effective control. Use this procedure after original or capital removal. It is the first step towards a chemical brush control program on newly cleared highways and rights-of-way. The spray is most effective and profitable on stumps 3-4 inches and larger. Mix 3-4 gallons of RIVERDALE 2D + 2DP AMINE in 100 gallons of water. Application should be made with a low volume knapsack sprayer using a solid cone-shaped nozzle medium orifice.

CONCENTRATE STUMP TREATMENT: For small (up to 3 inch diameter) stems, cut them as close to the ground as possible and apply undiluted RIVERDALE 2D + 2DP AMINE directly from the can to the surface of the freshly cut stump.

FRILL: Make a frill using an axe to cut overlapping V-shaped notches in a continuous ring, and cut around the trunk near its base. Cut through the bark, but do not remove the chips. This method is recommended for all trees 5-6 inches in diameter and larger. Freshly cut frills can be treated anytime of the year. Mix 3-4 gallons of RIVERDALE 2D + 2DP AMINE in 100 gallons of water. Pour in as much of the mixture as the frills will hold without wasting the chemical.

POWERED KNAPSACK BASAL SPRAY: Mix 8-14 gallons of RIVERDALE 2D + 2DP AMINE with water to make 100 gallons of spray solution. Apply with a portable knapsack mistblower to lower brush stems. Apply spray to all sides of stems; good root collar coverage is essential. Run knapsack mistblower at $1/4$ - $1/3$ throttle for best spray delivery and coverage. For maximum drift control use a basal nozzle attachment. Do not raise spray nozzle above horizontal position.

FENCE ROW APPLICATION: To control mixed brush, perennial and annual broadleaf weeds, use one of the application methods such as the foliage stem method described on this label. Some regrowth may be expected on resistant species such as ash, maple, oak and persimmon.

LOW VOLUME STEM FOLIAGE SPRAY - AERIAL OR GROUND: Apply the spray only through equipment designed to provide effective drift control.

MIXED BRUSH - UTILITY RIGHTS-OF-WAY: For aerial application to solid stands of brush use 2-4 quarts in 3-12 gallons volume per acre.

SOLID STANDS OF OAK OR ELM: Apply with fixed-wing or helicopter aircraft. Apply in the Spring after hardwoods have just developed full sized leaves. The spray season normally runs from early May to mid-June in Texas and California, and from early May to early July in Oklahoma and northward. Spray when wind velocities are less than 5 miles per hour.

BRUSH	2D + 2DP	Add Water to Make Total of
post, blackjack oak and winged elm	2/3 gallon	6 gallons
sand shinnery oak	1-1½ quart	4 gallons

For maximum control, use higher rate and repeat spray the second year, if necessary, using 1 quart RIVERDALE 2D + 2DP AMINE per acre.

FORESTRY SITE PREPARATION: To reduce competition from mixed trees and brush before planting forest trees. Apply one gallon RIVERDALE 2D + 2DP AMINE for easy-to-control species such as aspen, hazel, alder, sassafras, sumac, black locust willow, and other similar species. Apply two gallons RIVERDALE 2D + 2DP AMINE to control more difficult species such as oaks, sweet gum, black gum, hickory and tulip-poplar.

Mix with water to make 10 gallons total solution when applying as an aerial spray or 20 gallons total solution when applying as a ground spray. Do not apply to established plantations as this spray mix will injure planted conifers.

PINE RELEASE: To control hardwood brush and release Northern conifers such as red pine, Jack pine, white pine and white spruce.

Apply 2-4 quarts RIVERDALE 2D + 2DP AMINE as a broadcast spray in 10 gallons of water per acre. Make applications in midsummer after pine height growth is complete and the conifer buds are set. RIVERDALE 2D + 2DP AMINE will control aspen, birch, cherry, alder, hazel, oaks, and similar species. It will not, at these rates, provide satisfactory control of red maple, sugar maple or ash.

TURF CONTROL

Lawns and other ornamental turf grass areas - RIVERDALE 2D + 2DP AMINE is recommended for professional weed control of broadleaf weeds in lawns, ornamental turf, and similar turf areas. This treatment may injure bentgrass, St. Augustinegrass, centipedegrass, carpetgrass and newly seeded lawns. If necessary to control weeds in such turf, use half the recommended rate in chart and repeat application in 2 to 3 weeks. Do not apply to Lippia, Dichondra and where desirable Clovers are present nor on bentgrass greens and tees as severe turf injury may result. Do not use this product to control weeds in flower and vegetable beds, shrubs and ornamental plantings. Spray when air is calm to avoid spray drift that might injure nearby desirable plants. A separate sprayer should be kept for killing weeds as 2,4-D and related chemicals are difficult to clean from equipment.

The following is a partial list of weeds controlled in turf by RIVERDALE 2D + 2DP AMINE.

MORE SUSCEPTIBLE WEEDS

Black medic, Brambles, Buckhorn plantain, Bull thistle, Burdock, Buttercup, Canada thistle, Carolina geranium, Chickweeds (common and mouseear), Chicory, Clovers, Cocklebur, Cudweed, Dandelion, *English daisy, Fleabane, Frenchweed, Ground Ivy, Hawkweed, Healall, Henbit, Honeysuckle, Jimsonweed, Knotweed, Kudzu, Little starwort,

Morningglory, Mustards, Oxalis (yellow woodsorrel), Pennywort, Peppergrass, Plantains (narrow or buckhorn broadleaf), Poison ivy, Poison oak, Poorjoe, Povertyweed, Purslane, Sheepsorrel, Shepherdspurse, Smartweed, Soliva, Sowthistle, Speedwell (annual), *Spurge Sumac, Wild aster, Wild blackberry, Wild garlic, Wild geranium, Wild onion, Wild radish, Wild raspberry, Yarrow.

*Treat in Spring and again in Fall.

LESS SUSCEPTIBLE WEEDS

Bindweed, Dock, Eveningprimrose, Falsedandelion, Florida pusley, Kochia, Lambsquarters, Mallow, Pigweed, Ragweed, Vervain, Vetch, Violet, Wild carrot, Wild lettuce.

This product is NOT effective on perennial veronicas or on weed grasses.

PREPARATION OF THE SPRAY: Fill the spray tank with half of the required amount of water, then add the recommended amount of RIVERDALE 2D + 2DP AMINE herbicide with agitation and finally the balance of the water with agitation. This material forms a true solution in water. It does not require additional agitation after the initial thorough mixing, and does not volatilize under proper spraying conditions. Apply any time broadleaf weeds are growing actively. Dandelion, plantain, woodsorrel and clovers are best treated in the Fall or in Spring before flower heads develop. Winter weeds such as chickweeds and henbit should be treated in early Spring.

Summer weeds such as oxalis, knotweed and spurges should be sprayed when they are small. Resistant weeds such as bindweed and violets may require 3 quarts per 40,000 sq. ft. and should be retreated whenever new growth appears. In areas with extended growing seasons, such as California, treatment in both Spring and Fall may be needed to control more resistant species.

On turf to be over-seeded in the Fall, treatment should be scheduled at least 4 weeks before the planned seeding date. Rainfall ($\frac{1}{4}$ inch or more) or irrigation should occur prior to seeding. Fall-seeded lawns (turf) may be treated the following Spring. Spring-seeded lawns (turf) may be treated after the grasses have sprouted and been cut at least twice, generally 6-10 weeks after seeding, depending on germination and growth rate.

For established lawns (turf) Fall treatment fits into a good turf management program. Proper fertilization and mowing should be combined with chemical weed control to thicken the turf after weeds have died and to discourage more weeds from invading.

HOSE ATTACHED SPRAYERS (LAWN MODELS): Use $1\frac{1}{2}$ teaspoons of RIVERDALE 2D + 2DP AMINE herbicide diluted with water to the 3-5 gallon mark on the sprayer jar for each 500 square feet (25' x 20') of lawn area to be sprayed. Adjust water pressure so that spray streams about 10-15 feet with no misting.

AMOUNTS TO USE

RIVERDALE 2D + 2DP AMINE	AREA COVERED	WATER VOLUME
1 $\frac{1}{2}$ oz.	1,000 sq. ft.	1 gal.
8 oz.	5,000 sq. ft.	5 gals.
1 pt.	10,000 sq. ft.	10 gals.
2 qts.	40,000 sq. ft.	40 gals.
3 qts. (resistant weeds)	40,000 sq. ft.	40 gals.

RIVERDALE 2D + 2DP AND BANVEL HERBICIDE^(R) MIXTURES

HIGH VOLUME STEM FOLIAGE SPRAY - Mix 1 gallon to 1½ gallons RIVERDALE 2D + 2DP AMINE with 1-2 quarts Banvel 4WS per 100 gallons total spray mix. Use the low rate for easy to kill brush such as alder, aspen, cherry, sycamore, tulip-poplar and willows. Use the high rate to control species such as oak, ash, elm, pines, spruce, and fir.

LOW VOLUME STEM FOLIAGE SPRAY - AERIAL OR GROUND: Mix 2-3 gallons of RIVERDALE 2D + 2DP AMINE with 1-1½ gallons Banvel herbicide in 15-50 gallons of water per acre to control mixed brush including conifers and ash.

Observe all restrictions, precautions and limitations on the labeling of each product used in tank mixture.

(R) Banvel Herbicide - Trademark of Sandoz Crop Protection Corp.

STORAGE AND DISPOSAL

STORAGE: Always use original container to store pesticides in a secured warehouse or storage building. Do not store near seeds, fertilizers, insecticides, or fungicides. Store at temperatures above 32°F. If allowed to freeze, remix before using. This does not alter this product. Containers should be opened in well ventilated areas. Keep container tightly sealed when not in use. Do not stack cardboard cases more than two pallets high. Do not contaminate water, food or feed by storage or disposal.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixtures or rinsate is a violation of Federal law and may contaminate groundwater. If container is damaged or if pesticide has leaked, contain all spillage. Absorb and clean up all spilled material with granules or sand. Place in a closed, labeled container for proper disposal. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

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

NOTE: Local conditions and applications regulations vary and may affect use of this herbicide. Consult local agricultural experiment station or extension service weed specialists and state regulatory agencies for recommendations in your area.

WARRANTY

Riverdale warrants that this herbicide conforms to the chemical description on its label. When used in accordance with label directions under normal conditions, this herbicide is reasonably fit for its intended purposes. Since timing, method of application, weather, plant, and soil conditions, mixtures with other chemicals, and factors affecting the use of this product are beyond our control, no warranty is given concerning the use of this product contrary to label directions or under conditions which are abnormal or reasonably foreseeable. The user assumes all risks of any such use.

(RS 030191/RV 031693)