

MAR 13 1991

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

Dear Mr. Sawyer:

Subject: Amendment - Label changes, increase rate of application, etc.
Riverdale 2D + 2DP Low Vol
EPA Reg. No. 228-167
Your Submission Dated July 16, 1990

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

Add the protective clothing statement:

"When handling this product, wear chemical resistant gloves. Wash nondisposable gloves thoroughly with soap and water before removing. If spills occur, collect the material and dispose of by following disposal instructions on this label."

Page 1: Add the AOAC Method Number.

Page 2: Change to ..on the ground"; "spray...

Delete the last paragraph. As stated in the Notice of Pesticide Registration dated November 10, 1982, tolerances for 2,4-DP residues in grasses and animal flesh have not been established to support use in pastures and rangeland.

Page 3: Basal Bark Treatment, change to ...This spray "may" be...

Page 7: Container Disposal, change to ..or "reconditioning"...

A stamped copy of your draft label is enclosed for your records.

CONCURRENCES

SYMBOL	H7505C						
SURNAME	D. Wilson						
DATE	3-13-91						

Please submit five (5) copies of your final printed labeling incorporating the changes before you release the product for shipment.

Sincerely yours,

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

) Enclosure

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RIVERDALE

2D + 2DP LOW VOL

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 NOXIOUS PERENNIAL WEEDS ON UNCROPPED LAND, LAWNS, GOLF COURSES, ATHLETIC FIELDS, PARKS, AND OTHER ORNAMENTAL TURF GRASS AREAS.

ACTIVE INGREDIENTS:

Isooctyl Ester of 2,4-Dichlorophenoxyacetic Acid* 32.1%
Isooctyl Ester of 2-(2,4-Dichlorophenoxy)propionic Acid** 32.2%

INERT INGREDIENTS: 35.7%
TOTAL 100.0%

Isomer Specific AOAC Method, Equivalent to:

*2,4-Dichlorophenoxyacetic Acid 21.3%, 1.83 lbs./gal.
**2-(2,4-Dichlorophenoxy)propionic Acid 21.8%, 1.87 lbs./gal.

KEEP OUT OF REACH OF CHILDREN

CAUTION - CAUCION

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. 228-167

EPA EST. NO. 228-IL-1

MANUFACTURED BY

RIVERDALE CHEMICAL COMPANY

GLENWOOD, ILLINOIS 60425

60425

ACCEPTED
EPA COMMENTS
EPA Letter Dated

MAR 18 1991

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 228-167

NOTE: Spanish language is optional

Revised 7/16/90

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION - CAUCION

Harmful if swallowed or absorbed through skin. Avoid inhalation of vapors or spray mist and contact with eyes, skin, or clothing. Remove and wash contaminated clothing before reuse. Wash thoroughly before eating or smoking.

STATEMENT OF PRACTICAL TREATMENT

- IF SWALLOWED: Do not induce vomiting. If vomiting occurs spontaneously, keep airway clean. Never give anything by mouth to an unconscious person. Get medical attention.
- IF IN EYES: Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
- IF ON SKIN: Wash exposed skin gently with plenty of soap and water.

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. 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.

When using on Pastures and Rangeland Grasses there is (1) 7 day pre-grazing interval for dairy cattle; (2) 30 day preharvest interval for grass cut for hay; and (3) 3 day pre-slaughter interval for meat animals.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. READ ENTIRE LABEL BEFORE USING THIS PRODUCT. USE STRICTLY IN ACCORDANCE WITH LABEL PRECAUTIONARY STATEMENTS AND DIRECTIONS.

BRUSH CONTROL

RIVERDALE 2D + 2DP LOW VOL is specifically designed for utilities and other industrial users to control woody plants. This product also controls many noxious perennial weeds on uncropped land, such as along highways, drainage ditchbanks and fence rows. The following is a partial list of the 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, Eims, 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 SPRAY: Add one-half the required amount of oil (kerosene, diesel or fuel oil) or water to the spray tank, then add this product with agitation and finally the balance of the water or oil with continued agitation. This material forms an emulsion in water not a solution. This tends to separate on standing. Provide agitation to prevent such separation and ensure a uniform mixture. If this material is to be used in straight oil mixtures, do not let water get into it or the finished mixture.

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. Some regrowth may be anticipated on the more resistant species, such as oak, maple, ash and persimmon. Add 1-1½ gallons of RIVERDALE 2D + 2DP 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 spot spraying with backpack sprayer mix 1 cup (8 oz..) RIVERDALE 2D + 2DP 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 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 in 100 gallons of oil. 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 SEASON SPRAYING: Add 1-1½ gallons of RIVERDALE 2D + 2DP to 10 gallons of diesel oil and thoroughly mix. Add this mixture to 89 gallons of water.

DURING DRY WEATHER OR THE LATTER PART OF SPRAYING SEASON: Add 1½ gallons of RIVERDALE 2D + 2DP to 15 gallons of diesel oil and mix thoroughly. Add mixture to 83½ gallons of water and agitate thoroughly before use to ensure uniform mixing. DO NOT allow mixture to stand more than 1 hour after mixing.

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 in 100 gallons of oil. 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 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 in 100 gallons of oil. Pour in as much of the mixture as the frills will hold without washing the chemical.

POWERED KNAPSACK BASAL SPRAY: Mix 8-14 gallons of RIVERDALE 2D + 2DP with fuel oil or kerosene 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. 1-4 quarts of fuel oil may be included in this mixture.

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	Oil	Add Water to Make Total
post, blackjack oak and winged elm	2/3 gallon	1 gallon	5 gallons
sand shinnery oak	1/2-1 quart	1 gallon	3 gallons

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

FORESTRY SITE PREPARATION: To reduce competition from mixed trees and brush before planting forest trees. Apply one gallon RIVERDALE 2D + 2DP for easy-to-control species such as aspen, hazel, alder, sassafrass, sumac, black locust, willow, and other similar species. Apply two gallons RIVERDALE 2D + 2DP 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 a 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 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 will control aspen, birch, cherry, alder, hazel, oaks, and similar species. RIVERDALE 2D + 2DP will not, at these rates, provide satisfactory control of red maple, sugar maple or ash.

RIVERDALE 2D + 2DP LOW VOL and BANVEL HERBICIDE^(R) MIXTURES

HIGH VOLUME STEM FOLIAGE SPRAY - Mix 1 gallon to 1½ gallons RIVERDALE 2D + 2DP with 1-2 quarts Banvel 4WS per 100 gallons total spray mix. Use the low rate for easy to kill brush such as alders, 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 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.

TURF CONTROL

Lawns and other ornamental turf grass areas - RIVERDALE 2D + 2DP LOW VOL is recommended for professional weed control of broadleaf weeds in lawns, ornamental turf, and similar turf areas. This treatment may injure bentgrass, St. Augustinegrass, centipede grass, 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 by RIVERDALE 2D + 2DP

Bindweed, Black medic, Brambles, Buckhorn plantain, Bull thistle, Burdock, Buttercups, Canada thistle, Carolina geranium, Chickweeds (common and mouseear), Chicory, Clovers, Cocklebur, Cudweed, Dandelion, Dock, Evening primrose, False dandelion, Fleabane, Florida pusley, Frenchweed, Ground ivy, Hawkweed, Healall, Henbit, Honeysuckle, Jimsonweed, Knotweed, Kochia, Kudzu, Lambsquarters, Little starwort, Mallow, Morningglory, Mustards, Oxalis (yellow woodsorrel), Pennywort, Peppergrass, Pigweed, Plantains (narrow or buckhorn; broadleaf), Poison ivy, Poison oak, Poorjoe, Povertyweed, Purslane, Ragweed, Sheep sorrel, Shepherdspurse, Smartweeds, Soliva, Sowthistle, Speedwell (annual), Spurge, Sumac, Vervain, Vetch, Violet, Wild aster, Wild blackberry, Wild carrot, Wild garlic, Wild geranium, Wild lettuce, Wild onion, Wild radish, Wild raspberry, Yarrow.

This product is not effective on perennial Veronicas or on weed grasses. Resistant weeds such as Oxalis (yellow woodsorrel), Bindweed and Yarrow should be retreated whenever new growth appears. Control of difficult weeds such as Sheep (red) sorrel, Soliva, and Violets may be only partial.

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 herbicide with agitation and finally the balance of water with agitation. Apply any time broadleaf weeds are growing actively. Dandelion, plantain, wood sorrel 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 sparges 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 ($\frac{1}{2}$ inch or more) or irrigation should occur prior to seeding. Fall-seeded lawns may be treated the following Spring. Spring-seeded lawns 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, 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 the weeds have died and to discourage more weeds from invading.

HOSE ATTACHED SPRAYERS (LAWN MODELS): Use 1½ teaspoons of RIVERDALE 2D + 2DP 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.

RIVERDALE 2D + 2DP	AMOUNTS TO USE	
	AREA COVERED	WATER VOLUME
1½ 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.

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. 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. 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. Improper disposal of excess pesticide, spray mixtures, or rinsate is a violation of Federal law and may contaminate groundwater. 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 recondition or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. Plastic containers dispose also by incineration, or if allowed by state and local authorities by burning. If burned, stay out of smoke.

NOTE: Local conditions and application 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.

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

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.