

PM 23

228-260

7-6-99

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Russell F. Sawyer
Riverdale Chemical Company
425 West 194th St.
Glenwood, IL 60425-1584

JUL 6 1999

Dear Mr. Sawyer:

Subject: Label Amendment Extending 2,4-D Use in Reduced or No-Tillage Soybeans
(Pre-plant Only)
Riverdale Solution Water Soluble (R)
EPA Reg. No. 228-260
Your Application Dated April 8, 1999

The Agency is conditionally approving an amendment to the registration of the above-referenced product under the authority of section 3(c)(7)(B) of the Federal Insecticide, Fungicide Act (FIFRA). This amendment allows use of the subject product on reduced or no-tillage soybeans (pre-plant only) with a maximum permissible level for residues of the herbicide in or on soybeans of 0.1 ppm. This amendment will expire automatically on December 31, 2001. In addition, during the period that this amendment is effective, it will be subject to the conditions listed below:

- 1) This acceptance is based on your certification that the submitted labeling on preplant soybean use is an exact copy of the labeling accepted by the Agency on June 23, 1997. Please note that the acceptance of this labeling pertains to the previously approved preplant soybean use only and does not signify the acceptance of any other labeling revisions. No other label revisions are being reviewed or considered with this action. You should also note that if you fail to satisfy the conditions imposed in this certification, EPA may issue a notice to cancel this amendment under FIFRA section 6(e).
- 2) This conditional registration will expire automatically on December 31, 2001. Sale or distribution of the subject product bearing labeling for this use on reduced or no-tillage soybeans (pre-plant only) after December 31, 2001 will be illegal. The tolerance authorizing residues of the subject product will also expire on December 31, 2001. After that date, sale or distribution of food in interstate commerce containing any residue of the subject product will be a violation of the Federal Food, Drug, and Cosmetic Act.

CONCURRENCES

SYMBOL ▶	7505C							
SURNAME ▶	Morgan							
DATE	7/6/99							

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- 3) Finally, if and when a permanent tolerance is established, EPA will entertain an application to amend the registration of the subject product without any special limitations on the duration of the amendment.

A stamped copy of the labeling is enclosed for your records. Please submit one copy of your final printed labeling before you release the product for shipment.

Sincerely yours,

Joanne I. Miller
Product Manager (23)
Herbicide Branch
Registration Division (7505C)

Enclosure

RIVERDALE

SOLUTION WATER SOLUBLE®

A High Concentration Selective Weed Killer (Herbicide)

For Control of Many Broadleaf Weeds in Both Non-Crop and Certain Crop Areas, Lawns, Ponds, Ditchbanks, Pastures, and Rangelands. Also for Control of Trees by Injection.

ACTIVE INGREDIENT:

Dimethylamine Salt of 2,4-Dichlorophenoxyacetic Acid* 96.9%

INERT INGREDIENTS: 3.1%

TOTAL 100.0%

Isomer Specific by AOAC Method No. 6.321, Equivalent to:

*2,4-Dichlorophenoxyacetic Acid 80.5%

Solution Water Soluble® is a Registered Trademark of Riverdale Chemical Company

Patent No. 5,266,553

Individual Soluble Bags Are Not To Be Offered For Sale

KEEP OUT OF REACH OF CHILDREN

DANGER - PELIGRO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand label, find someone to explain it to you in detail.)

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

NET CONTENTS: 22-1/2 LBS. (8 X 2 LB. 13 OZ. PACKETS)

KPA REG. NO. 228-260

KPA EST. NO. 228-IL-1

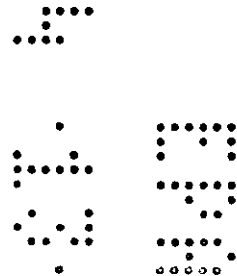
MANUFACTURED BY

RIVERDALE CHEMICAL COMPANY

GLENWOOD, ILLINOIS 60425-1584

ACCEPTED with COMMENTS in EPA Letter Dated JUL 6 1999

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 228-260



Revised 10/20/97 Added Safety Glasses for Industrial/Aquatic use per 2,4-D Exposure Reduction Program via notification. 2lb. 13oz. Packet

40113

(Side Panel)

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

DANGER - PELIGRO

CORROSIVE: Causes irreversible eye damage. May be fatal if swallowed or absorbed through skin. Do not get in eyes, on skin, or on clothing. Avoid inhaling vapor or spray mist. Remove saturated clothing as soon as possible and shower.

NON-WPS TURF USES: Applicators and other handlers who handle this pesticide for any use NOT covered by the Worker Protection Standard (40 CFR Part 170) -- in general, only agricultural plant uses are covered by the WPS -- must wear: face shield, goggles or safety glasses and long pants, long-sleeved shirt, socks, shoes and rubber gloves. It is recommended that safety glasses include front, brow and temple protection. In addition to the clothing and eye protection listed above, commercial mixer/loader/applicators must wear chemical-resistant in place of rubber gloves except when the product is applied to a golf course. Wash nondisposable gloves thoroughly with soap and water before removing. After using this product, remove clothing and launder separately before reuse, and promptly and thoroughly wash hands and exposed skin with soap and water. The maximum number of broadcast applications to turf per treatment site is 2 per year.

NON WPS INDUSTRIAL/AQUATIC USES: When mixing, loading or applying this product or repairing or cleaning equipment used with this product, wear face shield, goggles or safety glasses and chemical resistant gloves, long-sleeved shirt, long pants, socks and shoes. It is recommended that safety glasses include front, brow and temple protection. For aerial applicators in an enclosed cockpit and applicators applying this product from a tractor that has a completely enclosed cab, eye protection is not required. Wash hands, face and arms with soap and water as soon as possible after mixing, loading or applying this product. After work, remove all clothing and shower using soap and water. Do not reuse clothing worn during the previous day's mixing and loading or application of this product without cleaning first. Clothing must be kept and washed separately from other household laundry.

WPS USES: Personal Protective Equipment - Applicators and other handlers who handle this pesticide for any use covered by the Worker Protection Standard (40 CFR Part 170) -- in general, agricultural plant uses are covered -- must wear: coveralls over short-sleeved shirt and short pants, waterproof gloves, chemical resistant footwear plus socks, protective eyewear, chemical-resistant headgear for overhead exposure and chemical-resistant apron when cleaning equipment, mixing, or loading. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining Personal Protective Equipment (PPE). If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. After each day of use, clothing or PPE must not be reused until it has been cleaned.

Engineering Controls Statements: When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

USERS GROUP: 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.

STATEMENT OF PRACTICAL TREATMENT

IF IN EYES: Hold eyelids open and flush with a steady, gentle stream of water for 15 minutes. Get medical attention at once.

- IF SWALLOWED:** Drink promptly a large quantity of milk, egg whites, gelatin solution, or if these are not available, drink large quantities of water. Avoid alcohol. Get medical attention. Do not give anything by mouth to an unconscious person.
Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.
- IF ON SKIN:** Wash with plenty of soap and water. Get medical attention.
- IF INHALED:** Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

ENVIRONMENTAL HAZARDS

This product is toxic to aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates and non-target plants. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. Do not apply this product through any type of irrigation system. Do not contaminate water used for irrigation or domestic purposes. Use care to avoid spray contact or drift to 2,4-D susceptible plants such as cotton, tomatoes, flowers, grapes, fruit trees, and ornamentals. Excessive amounts of this product in soil may temporarily inhibit seed germination and plant growth. Do not permit spray mist containing this product to drift onto them. Do not spray when the wind is blowing towards susceptible crops or ornamental plants. Use coarse sprays to minimize drift. Avoid spray drift by (1) keeping the spray boom as low as possible, (2) applying at 20 pounds or less nozzle pressure using nozzles that produce a coarse spray pattern, and (3) applying when conditions such as wind, air stability and temperature inversions are not a factor. Do not use the same spray equipment for applying other materials to 2,4-D susceptible crops as injury may result. It is best to use a separate sprayer for application of insecticides and fungicides.

Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D 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 a (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.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. 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 apply only 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 48 hours.

PPE 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, soil, or water, is: coveralls over short-sleeved shirt and short pants, waterproof gloves, chemical-resistant footwear plus socks, protective eyewear and chemical-resistant headgear for overhead exposure.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

For Turf use, do not allow people (other than applicator) or pets on treatment area during application. Do not enter treatment areas until spray has dried.

GENERAL INFORMATION

READ ENTIRE LABEL BEFORE USING THIS PRODUCT. USE STRICTLY IN ACCORDANCE WITH LABEL PRECAUTIONARY STATEMENTS AND DIRECTIONS.

RIVERDALE SOLUTION WATER SOLUBLE® will kill or control the following weeds in addition to many other noxious plants susceptible to 2,4-D.

Alder, American lotus, Arrowhead, Artichoke, Aster, Austrian fieldcress, Beggartick, Bidden, Bindweed, Bitterweed, Bitter wintercress, Blessed thistle, Blue lettuce, Box elder, Broomweed, Buckhorn, Bull thistle, Bulrush, Burdock, Bur ragweed, Buttercup, Canada thistle, Carpetweed, Catnip, Chickweed, Chicory, Cockle, Cocklebur, Coffeebean, Coffeeweed, Common sowthistle, Creeping jenny, Croton, Curly indigo, Dandelion, Dock, Dogbane, Duckweed, Elderberry, Flea bane (daisy), Flixweed, Florida pusley, Frenchweed, Galinsoga, Goatsbeard, Goldenrod, Ground ivy, Gumweed, Healall, Hemp, Henbit, Hoary cress, Honeysuckle, Horsetail, Indigo, Indiana mallow, Ironweed, Jewelweed, Jimsonweed, Knotweed, Kochia, Lambsquarter, Locoweed, Lupine, Mallow, Marshelder, Mexican weed, Morningglory, Musk thistle, Mustard, Nettle, Nutgrass, Orange hawkweed, Parrotfeather, Parsnip, Pennycress, Pennywort, Peppergrass, Pepperweed, Pigweed, Plantain, Poison hemlock, Poison ivy, Pokeweed, Poorjoe, Povertyweed, Prickly lettuce, Primrose, Puncture vine, Purslane, Ragweed, Rush, Russian thistle, Sagebrush, St. Johnswort, Shepherdspurse, Sicklepod, Smartweed, Sneezeweed, Southern wild rose, Sowthistle, Spanishneedle, Spatterdock, Stinging nettle, Stinkweed, Sumac, Sunflower, Sweet clover, Tarweed, Thistle, Toadflax, Tumbleweed, Velvetleaf, Vervain, Vetch, Virginia creeper, Water hyacinth, Water lily, Water plantain, Water primrose, Watershield, Wild carrot, Wild garlic, Wild lettuce, Wild onion, Wild radish, Wild rape, Wild strawberry, Wild sweet potato, Willow, Witchweed, Wormseed, Yellow rocket.

Generally the lower dosages given will be satisfactory for young, succulent growth of sensitive weed species. For less sensitive species and under conditions where control is more difficult, the higher dosages will be needed. Apply Solution during warm weather when weeds are young and growing actively. Use enough spray volume for uniform coverage by ground or air application. Unless otherwise recommended, suggested application rates may be up to 10 gallons of total spray by air or 5 to 25 gallons by ground application equipment. If only bands or rows are treated, leaving middles untreated, the dosage per crop per acre is reduced proportionately. Do not apply when temperature exceeds 90°F.

TO PREPARE THE SPRAY: Mix Solution Water Soluble only with water. Just add the recommended water to your spray tank, then remove the water soluble packet from plastic outer bag. Add the appropriate Solution into the spray tank and agitate for three to five minutes. Solution will make a stable water mixture. It is non-flammable. Do not handle water soluble bags or expose them to moisture since this may cause rupturing. Individual water soluble bags are not to be offered for sale.

Notes: (1) Adding oil, wetting agent, or other surfactant to the spray may be used to increase effectiveness on weeds, but doing so may reduce selectivity to crops resulting in crop damage. (2) One 2 lb. 13 oz. packet of Riverdale Solution Water Soluble is equal to 5 pints of 2,4-D "4 lb." Amine. (3) Using a 2 lb. 13 oz. packet for a 5 acre coverage is equivalent to applying 2,4-D "4 lb." Amine at a rate of 1 pint per acre.

SELECTIVE WEEDING IN CROPS

WITH LIQUID NITROGEN SOLUTIONS: For late season control of young Smartweed, Cocklebur, Annual Morningglory and other annual broadleaf weeds less than 1 inch high. Field should be as clean as possible and corn 20 to 30 inches tall. The spray must be prepared by first adding the required amount of liquid nitrogen to spray tank (80 to 120 lbs. nitrogen per acre). Next dilute each 2 lb. 13 oz. packet of Riverdale Solution Water Soluble in 5 gallons of clean water. Start the agitator and (slowly) add the diluted Solution and water mixture. This combination of nitrogen and Solution will cover 5 acres. Spray immediately, maintaining continuous agitation until spray tank is empty. Direct the spray to lower 3 to 4 inches of corn stalk. Use spray equipment designed to handle corrosive liquid nitrogen solutions. After spraying, remove any remaining solution and rinse rig thoroughly with water. Mix only one tank at a time. Do not spray during or immediately following cold weather.

CORN (Field, Sweet and Popcorn): Pre-emergence (For annual grasses and broadleaf weeds) - Apply to soil any time after planting but before corn emerges. Do not use on light sandy soil, or where soil moisture is low. Dissolve each 2 lb. 13 oz. water soluble packet in 4 to 30 gallons of water and apply over 1-1/8 to 2-1/4 acres. The amount of water is dependent on whether application is made with air or ground equipment.

Emergence † Dissolve each 2 lb. 13 oz. packet in 10 to 100 gallons of water per five acres. Apply just as corn plants are breaking ground.

Post-Emergence (For broadleaf weeds) - Dissolve each 2 lb. 13 oz. packet in 10 to 100 gallons of water. This mixture will treat 5 to 10 acres. Apply when most weeds have germinated. Spray after corn emerges and until 8 inches tall. Use low rates on inbreds. Corn is susceptible to injury shortly after emergence and after unfolding of leaves. Do not spray during this period nor after first tassels appear. When corn is over 8 inches tall, use drop nozzle to keep spray off corn foliage. Spray must strike tops of weeds but should not drench corn plants. Do not apply from tasseling to dough stage. Injury to corn is most likely to occur if Solution Water Soluble is applied when corn is growing rapidly under high temperatures and high soil moisture conditions. In such conditions, use the low rate. For resistant weeds, use each 2 lb. 13 oz. packet to cover 2-1/2 acres though corn injury may result. Do not use higher rates unless possible crop injury will be accepted. After application, delay cultivation for 8 to 10 days to allow the corn to overcome any temporary brittleness.

Preharvest: After the hard dough or denting stage, apply by air or ground equipment to suppress perennial weeds, decrease weed seed production, and control tall weeds such as Bindweed, Cocklebur, Dogbane, Jimsonweed, Ragweed, Sunflower, Velvetleaf and vines that interfere with harvesting. Dissolve the 2 lb. 13 oz. packet in 5 to 100 gallons of water to treat from 2-1/2 to 5 acres.

SORGHUM (Milo): Post-emergence - Dissolve each 2 lb. 13 oz. packet in 10 to 100 gallons of water. Each dissolved 2 lb. 13 oz. packet will cover from 5 to 7-1/2 acres. Apply when sorghum is 5 to 15 inches tall. Treat only after the sorghum is 5 inches high and preferably before it is 15 inches high. Spraying before the 5 inch stage may inhibit root development. Do not treat during the boot, tasseling, or early dough stages. Reduce spray drift by keeping the boom and spray nozzle as low as possible. If crop is taller than 8 inches, use drop nozzle to keep the spray off the leaves. Temporary spray injury can be expected under conditions of high soil moisture and high air temperatures. If it is necessary to apply Solution Water Soluble under these conditions, do not treat less than 7-1/2 acres per 2 lbs. 13 oz. packet.

NOTE: Corn & Sorghum Hybrids vary in tolerance to 2,4-D. Some are easily injured. Spray only varieties known to be tolerant to 2,4-D. Consult the seed company or your Agricultural Experiment Station or Extension Service weed specialist for this information.

BARLEY, WHEAT, OATS AND RYE: Spring Post-emergence - In Spring grown grains, spray grain... between full tillering and before the boot stage (usually 4 to 8 inches tall) when weeds... are small. Dissolve each Solution Water Soluble 2 lb. 13 oz. packet in 5 to 100 gallons... of water. For Spring grown barley, wheat and rye, apply this spray mixture on 3-1/2 to 10... acres. Oats are more sensitive to 2,4-D than other grains and should be sprayed in the... Spring when well established and tillered and before jointing after crop has reached the... dough stage. For oats, spray over 5 to 10 acres. In Winter grains, dissolve each 2 lb... 13 oz. packet of Solution Water Soluble in 5 to 100 gallons of water. Apply mixture over 2-1/2 to 5 acres to control large weeds that will interfere with harvest or to suppress perennial weeds. **Preharvest** treatment can be applied when the grain is in the dough stage. Best results will be obtained when soil moisture is adequate for plant growth and weeds are growing well.

SUGARCANE: Pre-emergence - Dissolve each 2 lb. 13 oz. packet in 10 to 50 gallons of water. Apply mixture over 1-1/8 acres as a blanket spray through lay-by, to aid in control of Johnsongrass seedlings and susceptible broadleaf weeds. **Post-emergence** - Dissolve each 2 lb. 13 oz. packet in 10 to 60 gallons of water. Apply over 1-2/3 to 2-1/2 acres when cane is 1 to 2 feet tall.

RICE: Dissolve each 2 lb. 13 oz. water soluble packet of Solution Water Soluble in 5 to 50 gallons of water. Apply over 1-1/4 to 1-1/2 acres to control Curly indigo and other broadleaf weeds. Apply in the late tillering stage of rice development, at the time of first joint development (first to second green ring), usually 6 to 9 weeks after emergence. Do not apply after panicle initiation, after rice internodes exceed 1/2 inch at early seeding, early panicle, boot, flowering or early heading growth stages.

NOTE: Some rice varieties under certain conditions can be injured by 2,4-D. Therefore before spraying, consult local Extension Service or University specialist for appropriate rates and timing of 2,4-D sprays.

ON FALLOW LAND: Dissolve each 2 lb. 13 oz. water soluble packet of Solution Water Soluble in 5 to 100 gallons of water. This mixture will cover 1-1/4 to 1-1/2 acres for control of annual broadleaf weeds. Use this mixture on 1 acre to control established perennial species, such as Canada thistle and Field bindweed. Apply to weeds actively growing. Do not plant any crop for 3 months after treatment or until chemical has disappeared from soil.

GRASSES: The rates of application are per application per site. In established pastures and rangelands, dissolve each 2 lb. 13 oz. water soluble packet in 5 to 100 gallons of water. This mixture will treat from 1-1/8 to 2-1/4 acres. Use the light rate on more easily injured grasses. Apply preferably when weeds are small and growing actively before bud stage. Fall or Spring is the best time to treat. Repeated treatments may be needed for less susceptible weeds. Treatments will kill or injure alfalfa, sweet clover and other legumes. White clover (including Ladino) may be injured by light application but recovers; repeated treatments will kill it. In some areas dichondra, bentgrasses, carpet, buffalo, and St. Augustine grasses may be injured. Usually colonial bents are more tolerant than creeping types; velvets are more easily injured. Where bentgrass predominates, dissolve each 2 lb. 13 oz. water soluble packet in 10 to 100 gallons of water and spray this mixture over 10 acres. Repeat application after 3 weeks.

GRASS SEED CROPS: Dissolve each 2 lb. 13 oz. water soluble packet in 25 to 200 gallons of water. Spray mixture will treat 1-1/8 to 4-1/2 acres. Apply in Spring or Fall to control broadleaf weeds in grass being grown for seed. Do not apply from early boot to milk stage. Spray seeding grass only after the five leaf stage, using 4-1/2 acre rate to control small seeding weeds. After the grass is well established, higher rates of up to one 2 lb. 13 oz. packet per 1-1/8 acres can be used to control hard-to-kill annual or perennial weeds. For best results, do not use on bentgrass unless grass injury can be tolerated.

GRAPE VINEYARDS: Established at least 3 years - Field Bindweed (Morning Glory), Canada Thistle and other 2,4-D susceptible broadleaf weeds. Dilute 18 to 27 ozs. in 10 to 100 gallons of water to treat one acre of ground to be sprayed. For band or spot treatment, calculate rates according to the actual portion of an acre treated. Apply when weeds are in the bud to early bloom stage and growing vigorously. Apply after shatter following bloom and before grape shoots reach the ground or during dormant season. Use a hooded boom and low pressure flooding nozzles to deliver coarse droplets.

USE PRECAUTIONS: Grapes are extremely sensitive to 2,4-D. Use a direct application so no 2,4-D contacts grape leaves and young shoots or stems.

APPLE AND PEAR ORCHARDS - Broadleaf Weeds: NON-BEARING TREES (well established - one year or older), and **BEARING TREES** before and after bloom - Use 27 ozs. in 10 to 100 gallons of water per acre of ground to be sprayed. For band or spot treatment, calculate rates according to the actual portion of an acre treated. Apply as a directed spray onto the weeds to point of runoff when weeds are young and actively growing (pre-bud to early bud stage). Only a maximum of two applications per season are allowed. The minimum retreatment interval period is 75 days. The pre-harvest interval is 14 days.

STONE FRUIT, PISTACHIOS, AND NUT ORCHARDS: Broadleaf Weeds. Use 27 ozs. in 10 to 100 gallons of water per acre of ground to be sprayed. For band or spot treatment, calculate rates according to the actual portion of an acre treated.

Apply as a directed spray onto the weeds to point of runoff when weeds are young and actively growing (pre-bud to early bud stage). Make up to two applications through the dormant or growing seasons as needed. Do not harvest stone fruits within 40 days of application. Do not harvest nuts within 60 days of application. Do not graze or feed cover crops from treated orchards to livestock.

PRECAUTIONS IN APPLYING 2,4-D IN ORCHARDS AND VINEYARDS: Apply only after irrigation and allow maximum time before the next irrigation. Do not apply around fruit trees or vines with hand gun. Use only on flat, fan-type nozzles and low pressures - 20 to 25 pounds. Use a lined boom applicator which can be calibrated and which will deposit the spray uniformly. Avoid contact with fruit, foliage, stems or lower limbs of trees or vines. Apply precisely and uniformly to prevent damage to the trees or vines and to obtain satisfactory weed control. Do not apply during windy periods or extremely high temperatures. Do not spray bare ground. To avoid leaching, do not apply to dry soils. Apply when soil is moist and do not irrigate for 5 to 7 days after application.

**FOR USE IN CROP RESIDUE MANAGEMENT SYSTEMS
IN SOYBEANS (Preplant only)**

GENERAL INFORMATION: Riverdale Solution Water Soluble is a herbicide that provides control of many emerged susceptible annual and perennial broadleaf weeds. Riverdale Solution Water Soluble may be applied prior to planting soybeans to provide foliar burndown control of susceptible annual and perennial broadleaf weeds and certain broadleaf cover crops such as those listed on this label. Riverdale Solution Water Soluble should only be applied preplant to soybeans in situations such as reduced tillage production systems, where emerged weeds are present. Apply only according to the application instructions given below. Do not use any tillage operations between application of Riverdale Solution Water Soluble and planting soybeans.

MIXING INSTRUCTIONS: Compatible crop oil concentrates, agricultural surfactants and fluid fertilizers approved for use on growing crops may increase the herbicidal effectiveness of 2,4-D on certain weeds and may be added to the spray tank. Read and follow all directions and precautions on this label and on all labels of adjuvants or fertilizers mixed with this product.

APPLICATIONS PROCEDURES: Apply using air or ground equipment in sufficient gallonage to obtain adequate coverage of weeds. Use 2 or more gallons of water per acre in aerial equipment and 10 or more gallons of water per acre in ground equipment.

APPLICATION TIMING AND USE RATES:

2,4-D Formulation Used	Maximum Rate (per acre)	When to Apply (Days prior to planting soybeans)
Solution Water Soluble	At a rate of 0.5 lb. a.e./acre <u>Qty/Package</u> <u>Amount</u> <u>Acreage</u> 1 W.S. Bag 2 lb. 13 oz. 4.5	NOT LESS THAN 15 DAYS
	At a rate of 1.0 lb. a.e./acre <u>Qty/Package</u> <u>Amount</u> <u>Acreage</u> 1 W.S. Bag 2 lb. 13 oz. 2.25	NOT LESS THAN 30 DAYS

WEEDS CONTROLLED: Alfalfa*, Bindweed*, Bullnettle, Bittercress-smallflowered, Buttercup-smallflowered, Carolina geranium, Cinquefoil-common and rough, Clover-red*, Cocklebur-common, Dandelion*, Eveningprimrose-cutleaf, Garlic-wild*, Horsetweed or marestail, Ironweed, Lambsquarters-common, Lettuce-prickly, Morningglory-annual, Mousetail, Mustard-wild*, Pennycress-field, Peppergrass*, Purslane-common, Ragweed-common, Ragweed-grant, Shepherdspurse, Smartweed-Pennsylvania*, Sowthistle-annual, Speedwell, Thistle-Canada*, Thistle-bull, Velvetleaf, Vetch-hairy*, Virginia copperleaf.
*These species are only partially controlled.

For best weed control at time of treatment, weeds should be small, actively growing and free of stress caused by extremes in climatic conditions, diseases, or insect damage. The response of individual weed species to Riverdale Solution Water Soluble is variable. Consult your local county or State Agricultural Extension Service or crop consultant for advice.

APPLICATION RESTRICTIONS AND PRECAUTIONS: Important Notice - Unacceptable injury to soybeans planted in fields treated with Riverdale Solution Water Soluble may occur. Whether or not soybean injury occurs and the extent of the injury will depend on weather (temperature and rainfall) from herbicide applications until soybean emergence and agronomic factors such as the amount of weed vegetation and previous crop residue present. Injury is more likely under cool rainy conditions and where there is less weed vegetation and crop residue present.

Do not use on low organic sandy soils (<1.0%).

Apply a maximum of one application per growing season regardless of the treatment rate.

Do not apply Riverdale Solution Water Soluble when weather conditions such as temperature air inversions or wind favor drift from treated areas to susceptible plants.

Livestock Grazing Restriction: Do not feed hay, forage or fodder. Restrict livestock from grazing treated fields. Livestock should be restricted from feeding/grazing of treated cover crops.

In fields treated with Riverdale Solution Water Soluble, plant soybean seed as deep as practical or at least 1.0 inch deep. Adjust the planter, if necessary, to ensure that planted seed is completely covered.

Do not apply Riverdale Solution Water Soluble prior to planting soybeans, if you are not prepared to accept the results of soybean injury, including possible loss of stand and yield.

Do not replant fields treated with Riverdale Solution Water Soluble in the same growing season with crops other than those labeled for 2,4-D use.

BROADLEAF WEED CONTROL IN NON-CROPLAND GRASS AREAS SUCH AS LAWNS, GOLF COURSES, CEMETERIES AND PARKS, AIRFIELDS, RIGHTS-OF-WAY, FENCEROWS, ROADSIDES, VACANT LOTS, DRAINAGE DITCHBANKS AND SIMILAR PLACES: Use one to two packets (45 to 90 ozs.) of this product in 15 to 50 gallons of water per acre. On turf, apply a maximum of 40 ozs. of this product per acre per application per site. The maximum number of broadcast applications to turf per treatment site is 2 per year. Treat when weeds are young and growing well. Do not use on dichondra or other herbaceous ground covers. Do not use on creeping grasses such as bent except for spot treatment nor on freshly seeded turf until grass is well established. Reseeding of lawns should be delayed following treatment. With Spring application, reseed in the Fall. With Fall application, reseed in Spring. Legumes are usually damaged or killed. Thoroughly wet weeds when applying this mixture. Bindweed, Whitetop, Perennial sow thistle, Blue lettuce, Bur ragweed, Canada thistle and other noxious perennials somewhat resistant to 2,4-D will require repeated treatments to kill. To control small areas of woody plants, such as Willows, Honeysuckle, Virginia creeper, Alders and others susceptible to 2,4-D, use 1 to 2 water soluble packets (45 to 90 ozs.) in 100 gallons of water; spray to thoroughly wet plants when in full leaf. Re-treat as necessary for control of regrowth and seedlings. In general, it is better to cut tall woody growth and spray suckers when 2 to 4 feet high.

SPOT TREATMENT IN NON-CROP AREAS: To control broadleaf weeds in small areas with a hand sprayer, use one packet (2 lb. 13 oz.) of Solution Water Soluble in 50 gallons of water, fill sprayer, and apply to thoroughly wet all foliage.

CONTROL OF SOUTHERN WILD ROSE: On roadsides and fencerows, use two 2 lb. 13 oz. packets of Solution Water Soluble plus 4 to 8 ounces of an agricultural surfactant per 100 gallons of water and spray thoroughly as soon as foliage is well developed. Two or more treatments may be required. On rangeland, apply a maximum of one (2 lb. 13 oz. each) packet of Solution Water Soluble per 1.13 acres per application per site.

TREE INJECTIONS (Pine Release): To control hardwoods, such as Oaks, Hickory, Maple, Pecan, Elm, Sumac, Sweetgum and Hawthorn in forest and other non-crop areas, dissolve a 2 lb. 13 oz. packet of Solution Water Soluble in 1-1/2 gallons of water and apply in a concentrated tree injector calibrated to apply 0.75 ml. per injection. Space injections 2 inches apart, edge to edge, completely around the tree and close to the base. The injector must penetrate the inner bark. On hard-to-kill species such as Hickory, Dogwood, Red maple, Blue beech and Ash, make injections 1 to 1-1/2 inches apart, edge to edge. Treatment may be made at any time of the year. For best results, injections should be made during growing season, May 15 to October 15.

11/2/13

FOR AQUATIC WEEDS SUCH AS WATER HYACINTH IN WATERS THAT ARE QUIESCENT OR SLOW MOVING (LAKES, PONDS, RESERVOIRS, CANALS, RIVERS, BAYOUS, STREAMS, DRAINAGE DITCHES, MARSHES, ETC.): Aerial Application - Use two 2 lb. 13 oz. packets of Solution Water Soluble in 5 to 15 gallons of water to cover 1.2 surface acres. Use drift control spray equipment or thickening agents mixed into the spray solution. Apply through standard boom systems with a minimum of 5 gallons of spray mix per acre. Surface Application - Use one to two 2 lb. 13 oz. packets of Solution Water Soluble in 50 to 100 gallons of water per 1.2 acres. Uniform coverage is essential. Avoid submerging plants after treatment. Application should be made when leaves are fully developed above water line and plants are actively growing. Use power sprayers operated with a boom or spray gun mounted on a boat, tractor or truck. Thorough wetting of foliage is essential for maximum control. Special precautions such as the use of low pressure, large nozzles and thickening agents should be taken to avoid spray drift in areas of sensitive crops. For DIRECTA-SPRAY™ operation, use this product with 1 pint of drift control agent in 50 to 100 gallons of water. For other applications, follow the drift control agent label for mixing directions. Consult your State Game and Fish Department or Water Control Agency prior to application of this product for aquatic weed control. Treatment of aquatic weeds can result in oxygen loss from decomposition of dead weeds. This loss can cause fish suffocation. Therefore, to minimize this hazard, treat 1/3 to 1/2 of the water area in a single operation and wait at least 10 to 14 days between treatments. Begin treatments along the shore and proceed outwards in bands to allow fish to move into untreated areas. For large bodies of weed infested waters, leave buffer strips of at least 100 feet wide and delay treatment of these strips for 4 to 5 weeks or until the dead vegetation has decomposed. Repeat as necessary to kill regrowth and plants missed in previous application.

IRRIGATION: Delay the use of treated waters for irrigation for three weeks after treatment unless an approved assay shows that the water does not contain more than 0.1 ppm 2,4-D acid. Do not treat irrigation ditches in areas where water will be used to overhead sprinkler irrigate susceptible crops, especially grapes, tomatoes, and cotton.

POTABLE WATER: Delay the use of treated water for domestic purposes for a period of three weeks or until such time as an approved assay shows that the water contains no more than 0.1 ppm 2,4-D acid.

BRUSH CONTROL

The maximum application rate for forestry site preparation is two 2 lb. 13 oz. packets per 1.13 acres per application per site.

WEEDS AND BRUSH ON IRRIGATION CANAL DITCHBANKS - SEVENTEEN WESTERN STATES: Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, New Mexico, Nevada, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington and Wyoming.

For control of annual and perennial broadleaf weeds, dissolve one 2 lb. 13 oz. packet in 30 to 200 gallons of water and apply mixture over 1-1/2 to 3 acres. Treat when weeds are young and actively growing before the bud or early bloom stage. For harder to control weeds, a repeat spray after 3 to 4 weeks using the same rates may be needed for maximum results. Apply no more than two treatments per season.

For woody brush and patches of perennial broadleaf weeds, mix two 2 lb. 13 oz. packets of Solution Water Soluble in 150 gallons of water. Wet foliage thoroughly using about 1 gallon of solution per square rod.

SPRAYING INSTRUCTION: Apply with low pressure (10 to 40 psi) power spray equipment mounted on truck, tractor or boat. Apply while traveling upstream to avoid accidental concentration of chemical into water. Spray when the air is fairly calm; 5 mph or less. Do not use on small canals (less than 10 cfs) where water will be used for drinking purposes.

Boom spraying onto water surfaces must be held to a minimum and no cross-stream spraying to opposite banks should be permitted. When spraying shoreline weeds, allow no more than two-foot over-spray onto water with an average of less than one-foot over-spray to prevent introduction of greater than negligible amounts of chemical into the water.

Do not allow dairy animals to graze on treated area for at least 7 days after spraying. Water within banks should not be fished.

STORAGE AND DISPOSAL

STORAGE: Always use original container to store pesticides in a secure warehouse or storage building. This product should be stored in a cool, dry location. Do not store near seeds, fertilizers, insecticides, or fungicides. Container should be opened in a well ventilated area. All containers should be kept tightly sealed when not in use. Do not contaminate water, feed or foodstuff 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 spilled, contain all spillage. Clean up all spilled material with broom. 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.

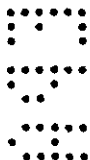
CONTAINER DISPOSAL: Dispose of empty outer plastic bags and shipping case in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Local conditions may affect the uses of this chemical as shown on this label. Consult State Experiment Station or Extension Service weed specialist for specific recommendations for local weed problems and for information on possible lower dosages.

WARRANTY

Riverdale Chemical Company 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 not reasonably foreseeable. The user assumes all risks of any such use.

(JKC 090297) (ERP 102393) (PR938&11 042194/RV 101097)



Solution
WATER SOLUBLE®

A High Concentrate
Selective Weed Killer

KEEP OUT OF REACH OF CHILDREN
DANGER - PELIGRO
Si usted no entiende la etiqueta, busque a alguien para que se
la explique a usted in detalle.
(If you do not understand the label, find someone to explain it
to you in detail.)
See Product Label On Carton For Additional
Precautionary Statements and Statement of
Practical Treatment

PA REG. NO. 228-260

EPA EST. NO. 228-IL-1

RIVERDALE CHEMICAL (LOGO)

ACTIVE INGREDIENT:

Dimethylamine Salt of 2,4-Dichlorophenoxyacetic Acid*	96.9%
INERT INGREDIENTS:	3.1%
TOTAL	100.0%

By Isomer Specific AOAC Method No. 6.321,
Equivalent to:

*2,4-Dichlorophenoxyacetic Acid 80.5%

Exposure to moisture prior to mixing may cause water soluble bag to rupture.

Individual soluble bags are not to be offered for sale.

Patent No. 5,226,553

