



U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs
Registration Division (7505P)
Ariel Rios Building
1200 Pennsylvania Ave., NW
Washington, D.C. 20460

EPA Reg. Number: 228-95
Date of Issuance: 8 DEC 2008

NOTICE OF PESTICIDE:

Registration
[x] Reregistration
(under FIFRA, as amended)

Term of Issuance:
Name of Pesticide Product: Riverdale 2,4-D LV 6

Name and Address of Registrant (include ZIP Code):

Nufarm Americas Inc.
150 Harvester Drive
Burr Ridge, IL 60527

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act. Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is reregistered in accordance with FIFRA section 4(g)(2)(C) provided you:

- 1. Submit and/or cite all data required for registration/reregistration review of your product when the Agency requires all registrants of similar products to submit data.
2. Per the acute toxicity review and the RED, all handler PPE currently on the label ("Some materials that are ...mixers and loaders who do not use a mechanical system (such as a probe and pump or spigot) to transfer contents of this container must wear coveralls or a chemical resistant apron in addition to the other required PPE") must be deleted and replaced with the text below required for all occupational use settings. PPE for WPS and Non-WPS uses are the same.

"Some materials that are chemical-resistant to this product are made of any waterproof material. If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart.

All mixers, loaders, applicators, flaggers and other handlers must wear:

- Long-sleeved shirt and long pants,
-Shoes and socks,
-Chemical-resistant gloves (except for pilots), and
-Chemical-resistant apron when mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate.

See engineering controls for additional requirements."

Signature of Approving Official:

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

Handwritten signature of Joanne I. Miller

Date:

8 DEC 2008

3. The following text must be added to the Engineering Control section of the label:

“Pilots must use an enclosed cockpit that meets the requirements listed in the WPS for agricultural pesticides [40CFR 170.240 (d)(6).”

The mechanical transfer engineering control text is no longer needed and may be deleted from the label.

4. The User Safety Requirements text, appearing at the end of the PPE section, must be retained and the text in **bold type** below must be added:

“...If no such instructions for washables **exist**, use detergent and hot water...”

5. The first 2 sentences of the Environmental Hazard section must be revised to read:

“This pesticide *is* toxic to fish and aquatic invertebrates. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark.”

6. The text “Do not enter or allow people (or pets) to enter the treated area until sprays have dried” must be deleted from the Agricultural Use Requirements box.

Note – “Protective eyewear” is not required for early entry but may remain on the label.

7. The text “For turf use” must be deleted from the text “For turf use, do not allow people (other than the applicator) or pets on treatment areas during application. Do not enter treatment areas until spray has dried” appearing in the Non-Agricultural Use Requirements box.
8. Per the product chemistry review, the heading “Storage” must be revised to read “Pesticide Storage” in the storage and disposal section of the label.
9. Spray drift text must be added to the label and should read as specified below and any conflicting text must be deleted:

#### **“Spray Drift Management**

A variety of factors including weather conditions (e.g., wind directions, wind speed, temperature, relative humidity) and method of application (e.g., ground, aerial, airblast, chemigation) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

#### **Droplet Size**

When applying sprays that contain 2,4-D as the sole active ingredient, or when applying sprays that contain 2,4-D mixed with active ingredients that require a coarse or coarser spray, apply only as a coarse or coarser spray (ASAE standard 572) or a volume mean diameter of 385 microns or greater for spinning atomizer nozzles.

When apply sprays that contain 2,4-D mixed with other active ingredients that require a medium or more fine spray, apply only as a medium or coarser spray (ASAE standard 572) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles.

**Wind Speed**

Do not apply at wind speeds greater than 15 mph. Only apply this product if the wind direction favors on-target deposition and there are not sensitive areas (including, but not limited to, residential areas, bodies of water, known habitat for nontarget species, nontarget crops) within 250 feet downwind. If applying a medium spray, leave one swath unsprayed at the downwind edge of the treated field.

**Temperature Inversions**

If applying at wind speeds less than 3 mph, the applicator must determine if: a) conditions of temperature inversion exist, or b) stable atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or stable atmospheric conditions.

**Susceptible Plants**

Do not apply under circumstances where spray drift may occur to food, forage, or other plantings that might be damaged or crops thereof rendered unfit for sale, use or consumption. Susceptible crops include, but are not limited to, cotton, okra, flowers, grapes (in growing stage), fruit trees (foliage), soybeans (vegetative stage), ornamentals, sunflowers, tomatoes, beans, and other vegetables, or tobacco. Small amounts of spray drift that might not be visible may injure susceptible broadleaf plants.

**Other State and Local Requirements**

Applicators must follow all state and local pesticide drift requirements regarding application of 2,4-D herbicides. Where states have more stringent regulations, they must be observed.

**Equipment**

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

2,-4-D esters may volatilize during conditions of low humidity and high temperatures. Do not apply during conditions of low humidity and high temperatures.

**For aerial application:**

The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.

Release spray at the lowest height consistent with efficacy and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety. This requirement does not apply to forestry or rights-of-way applications.

When applications are made with a crosswind, the swath will be displaced downwind. The applicator must compensate for this by adjusting the path of the aircraft upwind.

**For ground boom application:**

Do not apply with a nozzle height greater than 4 feet above the crop canopy.”

10. The following revisions must be made to the directions for use:

**Corn (Field, Sweet and Popcorn):**

The directions for use on Page 5 of the label must be revised to state that the preharvest use is only allowed for field and popcorn, and is not allowed for use on sweet corn.

**Cereal Grains:**

**Wheat :**

- The directions to apply up to 2 pints (1.37 lbs ae) per acre for emergency weed control to wheat exceeds the maximum allowable rates of 1.25 lb ae per acre for postemergence use and 0.5 lbs ae per acre for preharvest use.. The label must be revised.

-The directions to apply up to 1 ½ pints (1.0 lbs ae) per acre as a pre-harvest treatment to wheat exceeds the maximum allowable rate of 0.5 lbs ae per acre. The label must be revised.

**Grass Seed Crops:**

Add

“Limited to 2 applications per year.  
Minimum of 21 days between applications.”

**Established Pastures and Rangelands:**

The directions to apply 3 pints per acre conflicts with the maximum application rate of 2.9 pints per acre as listed on the label.

**Ornamental Turf:**

The directions to apply up to 4 pints (2.7 lbs ae) per acre and the text that states that “2 2/3 pints ( 1.8 lbs ae) per acre provides good weed control under average conditions” are unacceptable because these rate exceed the maximum application rate of 2 pints (1.37 lbs ae) per acre as listed on the label and 1.5 lbs ae per acre in the RED. The label must be revised to comply with the rate restrictions required in the RED.

**Fallowland:**

Per the RED, the following restrictions must be added to the label and conflicting directions must be revised:

“Only labeled crops can be planted within 30 days of treatment.  
Limited to 2 applications per year.  
Maximum of 2.0 lbs ae per acre per application.  
Minimum of 30 days between applications.”

The rates of up to 4 pints (2.7 lbs ae) per acre exceed the allowable rate. The label must be revised.

**Uses in Forest Management:**

Per the RED, the following restrictions must be added to the label and any conflicting text must be deleted from the label:

- “Broadcast application-  
Limited to 1 broadcast application per year.
- Injection –  
Limited to one injection per year.”

11. Add the following statements to the label:

Use of this product in certain portions of California, Oregon and Washington is subject to the January 22, 2004 Order for injunctive relief in Washington Toxics Coalition, et al. v. EPA, C01-0132C, (W.D. WA). For further information, please refer to EPA Web site: <http://www.epa.gov/espp>.

A stamped copy of your labeling is enclosed for your records. Please note that the final product reregistration cannot be considered until after all active ingredients in this product are eligible for reregistration. Submit one copy of the revised final printed label for the record before you release the product for shipment. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

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

Enclosure

6/19

# 2,4-D L.V. 6 ESTER

## A SELECTIVE WEED KILLER

FOR CONTROL OF MANY BROADLEAF WEEDS AND BRUSH CONTROL IN CORN, SMALL GRAINS, SOYBEANS (PREPLANT) AND OTHER LISTED CROPS AND IN NON-CROP AREAS SUCH AS FENCEROWS, LAWNS, PASTURES, RANGELANDS, AND RIGHTS-OF-WAY.

SEE LABEL FOR TANK MIXES IN BOTH CROP AND NON-CROP AREAS

**ACTIVE INGREDIENT:**

Isooctyl (2-ethylhexyl) Ester of 2,4-Dichlorophenoxyacetic Acid\* ..... 87.3%

**OTHER INGREDIENTS:** ..... 12.7%

**TOTAL:** ..... 100.0%

Contains Petroleum Distillates

Isomer Specific AOAC Method, Equivalent to:

\*2,4-Dichlorophenoxyacetic Acid ..... 57.9%, 5.5 lbs./gal.

**KEEP OUT OF REACH OF CHILDREN  
CAUTION - PRECAUCION**

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

**SEE INSIDE BOOKLET FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS**

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300  
For Medical Emergencies Only, Call (877) 325-1840

NOTE: Spanish language is optional

**ACCEPTED  
with COMMENTS  
In EPA Letter Dated:  
18 DEC 2008**  
Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.

228-95

EPA REG. NO. 228-95  
EPA EST. NO. 228-IL-1

MANUFACTURED BY  
NUFARM AMERICAS INC.  
150 HARVESTER DRIVE  
BURR RIDGE, IL 60527



NET CONTENTS      GALS.

000228-0095.20080328.EPA.24d.Pending

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS  
CAUTION - PRECAUTION**

Causes moderate eye irritation. Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

**PERSONAL PROTECTIVE EQUIPMENT (PPE):**

Some materials that are chemical-resistant to this product are barrier laminate, butyl rubber, nitrile rubber or viton. If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart.

**All mixers, loaders, applicators, flaggers, and other handlers must wear:**

- long-sleeved shirt and long pants,
- shoes and socks, plus
- protective eyewear,
- chemical resistant gloves such as natural rubber.

**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: long pants, long-sleeved shirt, socks, shoes and chemical resistant gloves. After using this product, rinse gloves before removing, 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 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 - Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category E on an EPA chemical resistant category selection chart.

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: long-sleeved shirt and long pants; chemical-resistant gloves such as Barrier Laminate, Nitrile Rubber ≥ 14 mils, Neoprene Rubber ≥ 14 mils, and Viton ≥ 14 mils; shoes plus socks; and protective eyewear. If this container is over one gallon and less than five gallons, mixers and loaders who do not use a mechanical system (such as a probe and pump or spigot) to transfer contents of this container must wear coveralls or a chemical resistant apron in addition to the other required PPE. 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:** Pilots must use an enclosed cockpit that meets the requirements listed in the WPS for agricultural pesticides [40 CFR 170.240(d)(6)]. If this container is five gallons or more in capacity, do not open pour product from this container. A mechanical system (such as a probe and pump or spigot) must be used for transferring the contents of this container. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal. If the mechanical system is used 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.

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 Should:**

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. If pesticide gets on skin, wash immediately with soap and water.
- 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.

<b>FIRST AID</b>	
<b>IF SWALLOWED</b>	<ul style="list-style-type: none"> <li>• Call poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>IF IN EYES</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF ON SKIN OR CLOTHING</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>HOT LINE NUMBER</b>	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-325-1840 for emergency medical treatment information.	
<b>NOTE TO PHYSICIAN</b>	
Contains petroleum distillate - vomiting may cause aspiration pneumonia.	

**ENVIRONMENTAL HAZARDS**

This pesticide may be toxic to fish and aquatic invertebrates. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark except as noted on appropriate labels. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment wash waters or rinsate.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Application around a cistern or well may result in contamination of drinking water or groundwater.

**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.**

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. Product should not be used in or near greenhouses.

**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.

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, chemical-resistant gloves made of any water-proof material, shoes plus socks, protective eyewear.

Do not enter or allow people (or pets) to enter the treated area until sprays have dried.

**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 areas during application. Do not enter treatment areas until spray has dried.



### GENERAL INFORMATION

This product is a low volatile ester especially prepared for use on crops and weeds where a susceptible crop in the near vicinity may be injured by a more volatile product. It is recommended for control of numerous broadleaf weeds and certain 2,4-D susceptible woody plants without injury to most established grasses. In cropland, 2,4-D is more effective than amines for controlling hard-to-kill weeds such as Bindweed, Curly dock, Smartweeds, Tansy ragwort, Thistle, Wild garlic, and Wild onions. For best results, apply this product as a water or oil spray during warm weather when young succulent weeds or brush are actively growing. Application under drought conditions often will give poor results. The lower recommended rates will be satisfactory on susceptible, annual weeds. For perennial weeds and conditions such as the very dry areas of the Western States where control is difficult, the higher recommended rates should be used. Deep-rooted perennial weeds such as Canada thistle and Field bindweed and many woody plants usually require repeated applications for maximum control.

Unless otherwise recommended, suggested application rates may be 1 to 10 gallons of total spray by air or 5 to 25 gallons by ground application equipment. If band treatment is used, base the dosage rate on the actual area to be sprayed. Although water quantities may vary due to different types of application equipment, sufficient water must be used to provide for complete and uniform coverage. In all cases, use the same recommended amount of 2,4-D per acre. When product is used for weed control in crops, the growth stage of the crop must be considered. For crop uses, do not mix with oil or other adjuvants unless specifically recommended on label. To do so may reduce herbicide's selectivity and could result in crop damage. If you are not prepared to accept some degree of crop injury, do not use this product.

Crop varieties vary in response to 2,4-D and some are easily injured. Apply this product to varieties known to be tolerant to 2,4-D. If you are uncertain concerning tolerant varieties or local use situations that may affect crop tolerance to 2,4-D, consult your seed company, State Agricultural Extension Service or qualified crop consultant for advice.

Aerial applications should be used only when there is no danger of drift to susceptible crops. Many states have regulations concerning aerial application of 2,4-D formulations. Consult local regulatory authorities before making applications. Although this product is a low volatile formulation, at temperatures above 90° F vapors may damage susceptible crops growing nearby.

**TO PREPARE THE SPRAY:** (1) Fill the spray tank about half full with water, then add the required amount of this product with agitation, and finally the rest of the water.

**NOTE:** This product in water forms an emulsion which tends to separate unless the mixture is kept agitated. Continue agitation during application until spray tank is empty. (2) If oil is added, first mix this product and the oil and then add this mixture to the water. However, with adequate agitation, the oil can be added after the product is mixed in water. (3) If straight oil is used, a solution is formed and separation does not occur. Do not allow any water to get into the oil-herbicide mixture to avoid formation of an invert emulsion.

### WEEDS CONTROLLED

This product will kill or control the following weeds in addition to many other noxious plants susceptible to 2,4-D.

Alder	Cinquefoil	Gumweed	Musk thistle
Alfalfa	Coastal redstem sage	Halogeton	Mustard
Artichoke	Cockle	Hawkweed	Nettle
Aster	Cocklebur	Healall	Nutgrass
Austrian fieldcress	Coffeebean	Hemp	Orange hawkweed
Beggartick	Coffeeweed	Henbit	Parsnip
Biden	Common sowthistle	Hoary cress	Pennycress
Bindweed	Cornflower	Honeysuckle	Pennywort
Bitterweed	Coyotebrush	Horsetail	Peppergrass
Bitter wintercress	Creeping Jenny	Indiana mallow	Pepperweed
Blackeyed Susan	Croton	Indigo	Pigweed
Blessed thistle	Curly Indigo	Ironweed	Plantain
Blue lettuce	Dandelion	Jerusalem artichoke	Poison hemlock
Box elder	Devil's claw	Jewelweed	Poison ivy
Broomweed	Dock	Jimsonweed	Pokeweed
Buckbrush	Dogbane	Klamathweed	Poorjoe
Buckhorn	Dogfennel	Knotweed	Povertyweed
Bull thistle	Elderberry	Kochia	Prickly lettuce
Bur ragweed	Fanweed	Lambsquarter	Primrose
Burdock	Fiddle neck	Locoweed	Puncture vine
Burhead	Flea bane (Daisy)	Lupine	Purslane
Buttercup	Flixweed	Mallow	Rabbitbrush
Canada thistle	Florida pusley	Manzanita	Ragweed
Carpetweed	Frenchweed	Marijuana	Redstem
Catnip	Galinsoga	Many flowered aster	Russian thistle
Chamise	Goatsbeard	Marshelder	Sagebrush
Cherokee rose	Goldenrod	Mexican weed	Salsify
Chickweed	Goosefoot	Milkvetch	Sand shinnery oak
Chicory	Ground ivy	Morningglory	

(continued)

Shepherdspurse	Sunflower	Vetch	Willow
Sicklepod	Sweet clover	Virginia creeper	Witchweed
Smartweed	Tansymustard	Wild buckwheat	Wormseed
Sneezeweed	Tansy ragwort	Wild carrot	Wormwood
Southern wild rose	Tanweed	Wild garlic	Yellow rocket
Sowthistle	Tarweed	Wild lettuce	Yellow starthistle and other
Spanishneedle	Texas blueweed	Wild onion	broadleaf weeds which may
St. Johnswort	Thistles	Wild parsnip	be listed elsewhere on this
Starthistle	Toadflax	Wild radish	label.
Stinging nettle	Tumbleweed	Wild rape	
Stinkweed	Velvetleaf	Wild strawberry	
Sumac	Vervain	Wild sweet potato	

Some of these species may require repeat applications and/or use of higher rate recommended on this product label even under ideal conditions for applications.

Control of Pigweeds in the High Plains area of Texas and Oklahoma may not be satisfactory with this product.

**SELECTIVE WEEDING IN CROPS**

**USE IN LIQUID NITROGEN FERTILIZER:** This product may be combined with liquid nitrogen fertilizer suitable for foliage application on corn, grass, pastures, or small grains in one operation. Use product according to directions on this label for those crops. Use liquid nitrogen fertilizer at rates recommended by supplier or Extension Service Specialist. Mix the product and fertilizer according to the following instructions: Fill the spray tank approximately half full with the liquid nitrogen fertilizer. Add the product while agitating the tank. Add the remainder of the fertilizer while continuing to agitate. Apply immediately, maintaining agitation during application until tank is empty. **Do not apply during cold (near freezing) weather.** Spray mixture must be used immediately and may not be stored. Do not allow mixture to stand overnight.

**NOTE:** If good, continuous agitation is not maintained, separation of the spray mixture and/or clogging of the nozzles is likely to occur. Fertilizers can increase foliage contact burn of herbicides. Reducing the fertilizer rate and concentration will reduce the hazard of leaf burn.

**CORN (Field, Sweet and Popcorn):**

Pre-plant -	2/3 to 1-1/2 pints
Pre-emergent -	1/2 pint
Emergent -	3/4 pint
Post-emergent -	Average Conditions - 1/3 pint
	Dry Conditions* - 1/3 to 1/2 pint
Pre-harvest (Field and Popcorn only) -	2/3 to 1-1/2 pints

\*For Western States - Arizona, Idaho, Montana, Nevada, Oregon, Utah, Washington and Wyoming

Use with recommended amounts of water to make per acre applications. Use lower rates of product for easily-killed weeds, on inbreds, and when corn is growing rapidly. Do not cultivate for about 2 weeks after treatment while corn is brittle.

**Pre-plant:** To control emerged broadleaf weed seedlings or existing cover crops prior to planting corn, apply 7 to 14 days before planting. Do not use on light, sandy soil, or where soil moisture is inadequate for normal weed growth. Use high rate for control of less susceptible weeds or cover crops such as alfalfa.

**Pre-emergent:** Apply product to emerged weeds from 3 to 5 days after planting but before corn emerges. Do not use on very light, sandy soils. Use the higher rates on heavy soils. Plant corn as deep as practical. Product will not control weeds which have not emerged.

**Emergent:** Apply in 10 to 30 gallons of water per acre just as corn plants are breaking ground.

**Post-emergent:** Best results are usually obtained when weeds are small and corn is 4 to 18 inches tall. As soon as corn is over 8 inches tall, use drop nozzles to keep spray off corn foliage as much as possible; direct spray over tops of weeds but not over the corn. Do not apply from tasseling to dough stage. If corn is growing rapidly and temperature and soil moisture is high, use 1/3 pint per acre to reduce possibility of crop damage. Delay cultivation for 8 to 10 days to prevent stalk breakage due to temporary brittleness caused by 2,4-D. Application rates of up to 2/3 pint per acre may be used to control some hard-to-control weeds. However, the possibility of injury to the corn is increased.

Do not use with atrazine, oil or other adjuvants. Since the tolerance to 2,4-D of individual hybrids varies, consult your seed supplier, local Extension Service, Agricultural Experiment Station, or University Weed Specialist for information.

**Pre-harvest:** After the hard dough or denting stage, apply 2/3 to 1-1/2 pints in 20 to 50 gallons of water per acre 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. The high rate will be needed for tough weeds under stress.

**Use Precautions for Corn, field and pop**

Do not use treated crop as fodder for 7 days following application.

The preharvest interval (PHI) is 7 days.

Maximum of 4.25 pints of product /acre per crop cycle.

Preplant or preemergence:

Limited to one preplant or preemergence application per crop cycle.

Maximum of 1.45 pints of product /acre per application.

Postemergence:

Limited to one postemergence application per crop cycle.

Maximum of 3/4 pint of product /acre per application.

Preharvest:

Limited to one preharvest application per crop cycle.

Maximum of 2 pints of product /acre per application.

**Use Precautions for Sweet Corn**

Do not use treated crop as fodder for 7 days following application.

The preharvest interval (PHI) is 45 days.

Minimum of 21 days between applications.

Maximum of 2 pints of product /acre per crop cycle.

Preplant or preemergence:

Limited to one preplant or preemergence application per crop cycle.

Maximum of 1.45 pints of product /acre per application.

Postemergence:

Limited to one postemergence application per crop cycle.

Maximum of 3/4 pint of product /acre per application.

**CEREAL GRAINS (Barley, Oats, Wheat, Rye), not underseeded with a legume:**

Wheat, Barley, Rye -	Annual weeds -	Average Conditions - 1/3 to 2/3 pint; Dry Conditions (Western States) - 2/3 to 1-1/3 pints
	Perennial weeds -	Average Conditions - 2/3 pint Dry Conditions (Western States) - 5/6 to 1-1/3 pints
	Pre-harvest -	Average Conditions - 2/3 to 3/4 pint

Oats --- spring - 1/3 pint and fall - 1/3 to 1/2 pint

For aerial application on grain, it is suggested to use this product in 1 or more gallons of water per acre, and for ground application, use a minimum of 10 gallons of water per acre. Make application in the spring when the grain is fully tillered or stooled (usually about 4 to 8 inches high), but before jointing. Do not spray before the tiller stage nor from early boot to dough stage.

Use lower rate of product for easily-killed seedling weeds, and higher rate for older and more tolerant weeds. Do not treat grains underseeded with legumes, and do not spray winter grains in the fall. To control large weeds that will interfere with harvest or to suppress perennial weeds, pre-harvest treatment can be applied when grain is in the dough stage. Higher rates may be needed to handle difficult weed problems in certain areas such as under dry conditions especially in Western areas. However, do not use unless possible crop injury will be acceptable. For the high rates on barley and Spring wheat as well as rye and Winter wheat, consult State Agricultural Experiment Station or Extension Service weed specialist for recommendations or suggestions to fit local conditions.

**For emergency weed control in wheat:** Perennial broadleaf weeds - apply 2 pints per acre when weeds are approaching bud stage. Do not spray grain in the boot to dough stage. The 2 pint per acre application can produce injury to wheat. Balance the severity of your weed problem against the possibility of crop damage. Where perennial weeds are scattered, spot treatment is suggested to minimize the extent of crop injury. Use lower rate if small annual and biennial weeds are the major problem. Use the higher rate if perennial weeds or annual and biennial weeds are present which are in the hard-to-kill categories as determined by local experience.

The higher rates increase the risk of grain injury and should be used only where the weed control problem justifies the grain damage risk. Do not apply this product to grain in the seedling stage. For aerial application on grain, apply this product in 3 to 10 gallons of water per acre. For ground application, use a minimum of 10 gallons of water per acre.

**Spring Seeded Oats:** Use 1/3 pint per acre with recommended amount of water to give good coverage. Apply after the fully tillered stage, except during the boot to dough stage.

**Fall Seeded Oats (Southern):** Apply 1/6 to 5/6 pints per acre with recommended amount of water after full tillering but before early boot stage. Some difficult weeds may require the higher rates of 1/2 to 5/6 pint per acre for maximum control but injury may result. Do not spray during or immediately following cold weather.

**Pre-harvest Treatment:** Apply 3/4 to 1-1/2 pints with recommended amount of water per acre when grains are in the hard dough stage to control large weeds that may interfere with harvest. Best results will be obtained when soil moisture is sufficient to cause succulent weed growth.

**Spring Wheat and Barley:**

**Onset of Tillering Stage:** Grains are generally tolerant of these treatments, but risk of crop injury is greater than at full tillering stage. Do not make application if the risk of injury is unacceptable. Apply 6.0 to 9.0 fluid ounces of this product per acre in the spring when grain has 1 or more tillers as well as 3 or more leaves. Do not apply from boot to dough stage. Apply 6.0 to 12.0 fluid ounces of this product per acre when grain is in the full tiller stage (usually 4 to 8 inches tall). Do not apply from boot to dough stage.

**Winter Wheat, Barley and Rye:**

**Onset of Tillering Stage:** Grains are generally tolerant of these treatments, but risk of crop injury is greater than at full tillering stage. Do not make application if the risk of injury is unacceptable. Apply 6.0 to 12.0 fluid ounces of this product per acre in the spring when grain has 1 or more tillers as well as 3 or more leaves. Do not apply from boot to dough stage.

**Use Precautions for Cereal Grains (wheat, barley, millet, oats, and rye)**

The preharvest interval (PHI) is 14 days.

Postemergence:

Limited to one postemergence application per crop cycle.

Maximum of 1.8 pints of product /acre per application.

Preharvest:

Limited to one preharvest application per crop cycle.

Maximum of 3/4 pint of product /acre per application.

Limited to 2.5 pints of product /acre per crop cycle.

**NOTE:** Oats are less tolerant to 2,4-D than wheat or barley and more likely to be injured.

**Barley and Wheat: Control of Wild Garlic and Wild Onion**

For improved control of difficult weeds including Wild Garlic and Wild Onion, apply 2/3 to 1-1/3 pints of product per acre. Since these rates may injure the crop, do not use unless possible crop damage is acceptable. For the higher rates on barley and Spring wheat, consult your local State Agricultural Experiment Station or Extension Service weed specialist for recommendations or suggestions to fit local conditions.

**Control of Wild Garlic in Stubble Grain and Corn Fields:**

Following the harvest of small grains and corn, Wild Garlic often produces new fall growth. This should be sprayed with 2-2/3 to 4 pints of product in 20 to 40 gallons of water per acre. This is a useful practice as one part of Wild Garlic control program. Do not plant any crop for three months after treatment.

**SORGHUM (Milo):** For Post-emergent control in average conditions, use 1/3 pint; dry conditions (Western States), use 1/3 to 1/2 pint with suggested volume of 5 gallons of water by air or 6 to 20 gallons with ground equipment to make per acre applications. Apply to sorghum when crop is 5 to 15 inches high to top of canopy with secondary roots well established. If sorghum is taller than 8 inches, use drop nozzles to keep the spray off the foliage as much as possible. Do not apply during boot, flowering or early dough stage. Rates of up to 2/3 pint per acre may be used to control some hard-to-control weeds. However, the chance of crop injury is increased with the higher rates. Do not use with oil. Because temporary injury may occur if conditions of high temperature and high soil moisture exist, use lower rate. Varieties vary in tolerance to 2,4-D and some hybrids are quite sensitive. Spray only varieties known to be tolerant to 2,4-D. Contact seed company or your Agricultural Experiment Station or Extension Service weed specialist for this information.

**Use Precautions for Sorghum (Milo)**

The preharvest interval (PHI) is 30 days.

Do not permit meat or dairy animals to consume treated crop as fodder or forage for 30 days following application.

Postemergence:

Limited to one postemergence application per crop cycle.

Maximum of 3/4 pint of product /acre per application.

**RED POTATOES (Grown for fresh market):** Properly timed applications of this product generally enhance red color, aid in storage retention of red color, improve skin appearance, increase tuber set, and improve tuber size uniformity (fewer jumbos). Crop response may vary depending on variety, stress factors, and local conditions. Consult with Agricultural Extension Service and other qualified crop advisors for local recommendations. Varieties with naturally dark red color generally benefit less from treatment. Apply 1.6 fluid ounces of this product per acre in 5 to 25 gallons of water using ground or aerial equipment. The specific spray volume selected should be sufficient for good coverage of plants. Make first application when potatoes are in the pre-bud stage (about 7 to 10 inches high) and make a second application about 10 to 14 days later. Do not exceed two applications per crop. Do not harvest within 45 days of application. Uneven application, or mixture with other pesticides and additives, may increase the risk of crop injury.

**Use Precautions for Red Potatoes**

Permitted forms of 2,4-D include acid, salts, amines, and esters.

Only for use on potatoes intended for fresh market.

The preharvest interval (PHI) is 45 days.

**Postemergence:**

Limited to two postemergence applications per crop cycle.

Maximum of 1.6 fluid ounces of product /acre per application.

Minimum of 10 days between applications.

**GRASS SEED CROPS:** Apply 2/3 to 2-2/3 pints of product in up to 30 gallons of water per acre by air or ground equipment in the spring or fall to control broadleaf weeds in grass being grown for seed. Do not apply from early boot to milk stage. Spray seedling grass only after the five leaf stage, using 1/2 to 2/3 pint per acre to control small seedling weeds. After the grass is well established, higher rates of up to 2-2/3 pints per acre can be used to control hard-to-control annual or perennial weeds. For best results, apply when soil moisture is adequate for good growth. Do not use on Bent unless injury can be tolerated.

**NO-TILL APPLICATION:** This product may be used in the broadcast method with a normal boom or with direct pipes set 12" apart in 36" rows. When using this product, apply at a rate of 9-1/2 ounces in 10 gallons of water per acre. Maintain uniform pressure and speed when applying.

**GRASS CUT FOR HAY:** The rates of application per acre per application per site. Use 2/3 to 2-2/3 pints of product in sufficient water to give good coverage to one acre depending on type of weeds and stage of growth. Use only on established stands of perennial grasses. Do not use on alfalfa, bentgrass, clover, or other legumes. Do not use on newly seeded areas until grass is well established. Do not use from early boot to milk stage when grass seed production is desired.

**Use Precautions and Restrictions for Grass Cut for Hay**

Do not cut forage for hay within 7 days of application.

When using on Grass Cut for Hay, there is a (1) 7 day pre-grazing interval for dairy cattle; (2) 3 day pre-slaughter interval for meat animals.

**ESTABLISHED PASTURES AND RANGELANDS:** The rates of application per acre per application per site. Use 2/3 to 2-2/3 pints of product in sufficient water to give good coverage to one acre depending on type of weeds and stage of growth. Use only on established stands of perennial grasses. Do not use on alfalfa, bentgrass, clover, or other legumes. Do not use on newly seeded areas until grass is well established. Do not use from early boot to milk stage when grass seed production is desired.

**Bitterweed, Broomweed, Croton, Docks, Kochia, Marshelder, Musk thistle and Other Broadleaf Weeds:** Use 2-2/3 to 3 pints of this product in 10 to 30 gallons of water per acre. If weeds are young and growing actively, 1-1/3 pints per acre will provide control of some species. Deep-rooted perennial weeds may require repeated treatments in the same year or in subsequent years.

**Weed Control in Newly Sprigged Coastal Bermudagrass:** Apply 1-1/2 to 3 pints of this product in 20 to 100 gallons of water per acre pre-emergence and/or post-emergence.

**Wild Garlic and Wild Onion Control:** Apply 2-2/3 to 3 pints of product per acre making three applications, fall-spring-fall or spring-fall-spring, starting in the late fall or early spring.

**Use Precautions for Pasture and Rangeland**

Do not cut forage for hay within 7 days of application.

**Postemergence:**

For susceptible annual and biennial broadleaf weeds: Use 1.45 pints of product /acre per application.

For moderately susceptible biennial and perennial broadleaf weeds: Use 1.45 to 2.9 pints of product /acre per application.

For difficult to control weeds and woody plants: Use 2.9 pints of product /acre per application.

Spot treatment: Use 2.9 pints of product /acre.

Maximum of two applications per year.

Maximum of 5.8 pints of product /acre per year.

Minimum of 30 days between applications.

If grass is to be cut for hay, Agricultural Use Requirements for the Worker Protection Standard are applicable.

**CROP RESIDUE MANAGEMENT SYSTEMS IN SOYBEANS (PREPLANT ONLY)**

**GENERAL INFORMATION:** This product is a herbicide that provides control of many emerged susceptible annual and perennial broadleaf weeds. It 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. This product 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 this product 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.

**APPLICATION 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)
2,4-D L. V. 6 ESTER	11.6 fluid ounces (apx. 2/3 pint) (0.5 pound. a.e./acre)	NOT LESS THAN 7 DAYS
	23.3 fluid ounces (apx. 1-1/3 pint) (1.0 pound. a.e./acre)	NOT LESS THAN 30 DAYS

**WEEDS CONTROLLED**

- |                             |                          |                         |                     |
|-----------------------------|--------------------------|-------------------------|---------------------|
| Alfalfa*                    | Dandelion*               | Mustard-wild            | Sowthistle-annual   |
| Bindweed*                   | Evening primrose-cutleaf | Onion-wild*             | Speedwell           |
| Bittercress-smallflowered   | Garlic-wild*             | Pennycress-field        | Thistle-Canada*     |
| Bullnettle                  | Horseweed or marestalk   | Peppergrass*            | Thistle-bull        |
| Buttercup-smallflowered     | Iron-weed                | Purslane-common         | Velvetleaf          |
| Carolina geranium           | Lambsquarters-common     | Ragweed-common          | Vetch-hairy*        |
| Cinquefoil-common and rough | Lettuce-prickly          | Ragweed-giant           | Virginia copperleaf |
| Clover-red*                 | Morningglory-annual      | Shepherdspurse          |                     |
| Cocklebur-common            | Mousetail                | Smartweed-Pennsylvania* |                     |

\*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 this product 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 fields treated with this product 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 soil (<1.0%).

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

Do not apply this product 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 this product, 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 this product 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 this product in the same growing season with crops other than those labeled for 2,4-D use.

**SELECTIVE WEEDING IN NON-CROP AREAS**

**ORNAMENTAL TURF** such as Cemeteries, Golf Courses (Aprons, Fairways, Roughs and Tees), Lawns, Parks, and Sod Farms:

Use 1-1/3 to 4 pints of product in 40 to 180 gallons of water to give good coverage to one acre on established stands of perennial grasses. Usually 2-2/3 pints per acre provides good weed control under average conditions. Treat when weeds are young and actively growing. Do not apply to newly seeded grasses until well established. Use higher rate for hard-to-kill weeds. Use higher rate when using higher volume of water per acre. Do not exceed specified application dosages for any area. Deep-rooted perennial weeds may require repeated treatments in the same season or in subsequent years. Spray when air temperature is between 50° and 85°F. Avoid applying during excessively dry or hot periods unless irrigation (watering) is used before treatment. Do not apply if rainfall is expected within 48 hours, nor should lawns be irrigated for 48 hours following application. For optimum results, turf should not be mowed for 1 to 2 days before and after application. Reseed no sooner than 3 to 4 weeks after application of this product. 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 turf resulting in turf damage. Maximum kill of weeds will be obtained by applying in spring and early fall when weeds are actively growing. Do not use on golf greens nor on dichondra or other broadleaf herbaceous ground covers. Do not use on creeping grasses such as bent and St. Augustine except for spot treating, nor on newly seeded turf until grass is well established.

**Use Precautions for Turf, ornamental (golf courses, cemeteries, parks, sports fields, turfgrass, lawns and other grass areas)**

Postemergence:

Limited to two postemergence applications per year.

Maximum of 2 pints of product /acre per application.

The maximum seasonal rate is 4 pints of product /acre, excluding spot treatments.

**GENERAL WEED CONTROL**

**(Airfields, Fencerows, Industrial Sites, Rights-of-Way, Roadsides, Vacant Lots, and similar areas)**

Use 1-1/3 to 3 pints of product per acre. Apply when most annual broadleaf weeds are still young and growing vigorously. Apply when perennial and biennial weeds are actively growing and near the bud stage, but before flowering. For best results on Musk thistle and Tansy ragwort, treat in rosette stage, before bolting. A second application is usually needed for best results on Bindweed, Nettle, and Thistle. Treat Garlic or Wild onion in early spring and in fall when they are young and growing actively. Mix 2-2/3 pints of this product in 2 quarts kerosene or diesel oil, then add this mixture to 100 gallons of water. Apply 300 to 500 gallons of spray per acre, depending on the stand. The addition of a wetting agent (spray adjuvant) is suggested. Usually 2-2/3 pints per acre will give adequate control. Do not use on herbaceous ground covers or creeping grass such as Bent. Legumes will usually be damaged or killed. Deep-rooted perennials may require repeat applications. Do not use on freshly seeded turf until grass is well established. Delay reseeding for 30 days.

**Bitterweed, Broomweed, Croton, Docks, Kochia, Marshelder, Musk thistle and Other Broadleaf Weeds:** Use 2-2/3 to 3 pints of this product in 10 to 30 gallons of water per acre. If weeds are young and growing actively, 1-1/3 pints per acre will provide control of some species. Deep-rooted perennial weeds may require repeated treatments in the same year or in subsequent years.

**Weed Control in Newly Sprigged Coastal Bermudagrass:** Apply 1-1/2 to 3 pints of this product in 20 to 100 gallons of water per acre pre-emergence and/or post-emergence.

**Wild Garlic and Wild Onion Control:** Apply 2-2/3 to 3 pints of product per acre making three applications, fall-spring-fall or spring-fall-spring, starting in the late fall or early spring.

**CONTROL OF SOUTHERN WILD ROSE:** On roadsides and fencerows, use 3/4 gallon of this product 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 2.9 pints of this product per acre per application per site.

**SPOT TREATMENT IN NON-CROP AREAS:** To control broadleaf weeds in small areas with a hand or back pack sprayer, use 2-2/3 fluid ounces of this product per gallon of water and spray to thoroughly wet all foliage.

**GRASSES IN CONSERVATION RESERVE PROGRAM AREAS:** To control annual broadleaf weeds, apply when weeds are actively growing. Use 1/3 to 2/3 pint per acre when weeds are small; use higher rates on older weeds. Excessive injury may result if applied to young grasses with fewer than 6 leaves or prior to grasses being well established. To control biennial and perennial broadleaf weeds in established grasses, apply at a rate of 1-1/3 to 2-2/3 pints per acre. Apply to actively growing weeds. Treat when biennial weeds are in the seedling to rosette stage and before flower stalks become apparent. Treat perennial weeds in the bud to bloom stage.

**NOTE:** Suggest at least 2 gallons of water per acre by air and 5 gallons of water per acre by ground. Do not harvest or graze treated Conservation Reserve Program areas. Do not apply to grasses in the boot to dough stage if grass seed production is desired.

**FALLOW LAND:** Use 1-1/3 to 4 pints of this product in a recommended minimum of 10 gallons of water per acre for ground application and recommended minimum of 2 gallons for aerial application of water per acre on annual broadleaf weeds and up to 4 pints per acre on established perennial species such as Canada thistle and Field bindweed. Use lower rate when annual weeds are small (2" to 3" tall) and growing actively. Use the higher rate on older and drought-stressed plants. Spray musk thistles and other biennial species while in seedling to rosette stage, and before flower stalks are initiated. The lower rate can be used in spring during rosette stage. In fall or after flower stalks have developed, use highest rate. Spray perennial weed in bud to bloom stage, or in good vegetative growth. Do not disturb treated area for at least 2 weeks after treatment or until weed tops are dead. Do not plant any crop for 3 months after treatment or until chemical has disappeared from soil.

### BRUSH CONTROL

**WOODY PLANT CONTROL:** To control woody plants susceptible to 2,4-D such as Alder, Buckbrush, Cherokee rose, Elderberry, Japanese honeysuckle, Sumac, Virginia creeper, Wild grape and Willow on non-crop areas such as rights-of-way, fence rows, roadsides and along ditchbanks, use 1-1/3 to 2 quarts of product per acre in adequate water (30 to 100 gallons). Lower volume of water can be used unless applying through such equipment as Directa-Spra, Wobbler, Mini Wobbler, Spirometer. Spray brush 5 to 8 feet tall after spring foliage is well developed. Wet all parts of the plant thoroughly, including stem and foliage, to the point of runoff. Higher volumes of up to 300 to 500 gallons of spray per acre may be necessary where the brush is very dense and over 6 to 8 feet high.

Spraying can be effective at any time up to 3 weeks before frost as long as soil moisture is sufficient for active growth of the brush. Control will be less effective in mid-summer during hot dry weather when soil moisture is deficient and plants are not actively growing. Oil or wetting agent may be added to the spray if needed for increased effectiveness. Hard-to-control species may require re-treatment next season. In general, it is better to cut tall woody plants and spray sucker growth when 2 to 4 feet tall.

**SAND SHINNER OAK AND SAND SAGEBRUSH:** On the oak, use 1-1/2 pints of this product in 5 gallons of oil or in 4 gallons of water plus 1 gallon of oil per acre. Apply by aircraft between May 15 and June 15. On the Sagebrush, use 1-1/2 pints in 3 gallons of oil per acre and apply by aircraft when foliage is fully expanded and the brush is actively growing.

**BIG SAGEBRUSH AND RABBITBRUSH (For Pastures and Rangelands See Note Below):** Use 1-1/2 to 4-1/2 pints in 2 to 3 gallons of oil or in 3 to 5 gallons of oil-water emulsion spray. For Rabbitbrush, the 4-1/2 pints rate is usually required. Brush should be leafed out and growing actively when treated. Retreatment may be needed.

**Buckbrush, Chamise, Coastal Sage, Coyotebrush, Manzanita and certain other Chaparral Species:** Use 1-1/2 to 4-1/2 pints per acre in 5 to 10 gallons of water. One gallon of fuel oil may be included in the spray mixture for added effectiveness. Make applications by aircraft or ground equipment to obtain uniform spray coverage. For effective control, the brush must be fully leafed out and growing actively when sprayed. Retreatment may be needed. Consult State or local brush control specialists for most effective rate, volume and timing of spray application.

**Use Precautions for Non-Cropland (fencerows, hedgerows, roadsides, ditches, rights-of-way, utility power lines, railroads, airports, and industrial sites)**

Postemergence (annual and perennial weeds):

- Limited to two applications per year.
- Maximum of 3 pints of product /acre per application.
- Minimum of 30 days between applications.

Postemergence (woody plants):

- Limited to one application per year.
- Maximum of 6 pints of product /acre per year.

Applications to non-cropland areas are not applicable to treatment of commercial timber or other plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes.

### USES IN FOREST MANAGEMENT

**Conifer Release:** For control of Alder, apply 1 to 1-1/3 quarts of product per acre in 8 to 25 gallons of water, and apply as a foliage spray. Treat when 3/4 of the brush foliage has attained full size leaves and before new conifer growth reaches 2 inches in length. This is usually between early May and mid-June. Adjust treatment date depending on stage of growth and brush species. This may cause leader deformation on exposed firs, but they should overcome this during the second year after spraying. To control susceptible brush species such as Ceanothus spp., Chinquapin, Madrone, Manzanita, Oak and Tanoak and to release Douglas fir, Grand fir, Hemlock, or Sitka spruce, apply 2 quarts of product per acre before new growth on Douglas fir is 2 inches long. To control Manzanita and Ceanothus in Ponderosa pine, apply 2 quarts of this product before pine growth begins in spring.

To increase performance, add 2 to 4 quarts of diesel, fuel oil, kerosene, or a suitable approved agricultural surfactant at recommended label rate.

After Black spruce, Jack pine, Northern conifers, Red pine and White spruce cease growth and "harden off" (usually in mid-July), a spray of 1 to 2 quarts of product in 8 to 25 gallons of water per acre may be applied by air to control certain competing hardwood species such as Alder, Aspen, Birch, and Willow. Since this treatment may cause occasional conifer injury, do not use if such injury cannot be tolerated. Consult your Regional or Extension Forester or State herbicide specialist for recommendations to fit local conditions.

**Tree Injections (Pine Release):** To control hardwoods, such as Elm, Hawthorn, Hickory, Maple, Oak, Pecan, Sumac and Sweetgum in forest and other non-crop areas, apply this product undiluted in a concentrate tree injector calibrated to apply 0.7 ml. per injection. Space injections 2 inches apart, edge to edge, completely around the tree and close to the base. The injector bit must penetrate the inner bark. On hard-to-kill species such as Ash, Blue beech, Dogwood, Hickory, and Red maple, 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. For dilute injections, mix 2/3 gallon of this product in 19 gallons of water.

**Dormant Application (other than pine):** For the control of susceptible deciduous brush species such as Alder, Cascara, Cherry poplar and Serviceberry, apply up to 2 quarts of product per acre in sufficient diesel, fuel oil or kerosene for good coverage.

Application may be made by ground or air and should be made before conifer bud break.



**Pine Only:** Make application while pine buds are still dormant. Apply 1-1/3 quarts of product per acre in sufficient water for good coverage by air or ground equipment. Do not use this application unless some pine injury is acceptable. Use of diesel, kerosene, or other oil, or addition of surfactants to spray mix may cause unacceptable pine injury.

**Christmas Tree Plantations:** For control of labeled broadleaf weeds in Douglas Fir Christmas trees, use 2/3 to 1-1/3 pints of this product per acre.

Apply over the top of Douglas Fir by ground or aerial application equipment only when the trees are dormant, prior to bud break. Do not spray over the top of pine or true firs (Abies spp.).

Directed Sprays may be made to weeds in Christmas tree plantations of all conifer species, but the spray must not contact tree foliage as injury may occur. Do not apply to weakened, diseased, or stressed seedlings since unacceptable injury can occur. This product may be mixed with Atrazine for Christmas tree application. (See Tank Mix section.)

**Herbaceous Weed Control:** To control over-wintering susceptible weeds such as False dandelion, Klamath weed, Plantain, Tansy ragwort, apply 2/3 to 2 quarts of product in sufficient water for good coverage. Make application at rates and timing indicated above if Pines are present. For control of Hazel brush and similar species in the Lake States area, apply 1-1/3 quarts of product per acre in 8 to 25 gallons of water when new shoot growth of Hazel is complete (usually mid-July).

**Site Preparation:** (As Budbreak Spray) - For control of Alder prior to planting seedlings, apply 1-1/3 to 2-2/3 quarts of product per acre in 8 to 25 gallons of water, after Alder budbreak but before foliage is 1/4 full size. Application may be made by air or ground. If desired, diesel, fuel oil or kerosene may be substituted for water as diluent. (As Foliage Spray) - For control of Alder prior to planting seedlings, apply 1-1/3 to 2 quarts of product per acre in 8 to 25 gallons of water, after most Alder leaves are full size. To increase penetration, 2 to 4 quarts per acre of diesel, fuel oil, kerosene, or a suitable approved agricultural surfactant at recommended label rates may be added to the spray mixture.

### TANK MIXES

Read and follow the label of each tank mix product used for precautionary statements, directions for use, geographic and other restrictions.

**Using this product and Butril® ME4 for weed control on cereal grains (Barley, Rye and Wheat):** Butril ME4 Broadleaf Herbicide will control some annual weeds that are resistant to this product and may be tank mixed with this product for broader spectrum weed control on small grains. In cereal areas except Idaho, Oregon and Washington, use 1/3 to 2/3 pint of this product plus 1/2 to 3/4 pint of Butril ME4 per acre. In Idaho, Oregon and Washington: use 1/3 to 2/3 pint of this product plus 3/4 to 1 pint Butril ME4 per acre. First mix this product in water, then add the Butril ME4. Use the higher rates for larger weeds or where weed growth is slow due to dry or cold weather. Apply before weeds are 6 inches high. Use 10 to 20 gallons total spray volume per acre with ground equipment or 5 to 10 gallons total spray volume with air application. Use higher volume on larger weeds.

**Using this product with Banvel SGF and Ally (or Express) or Diablo to provide more complete Kochia control:** Offers quick burndown. Provides residual activity with Ally to control later weed flushes making harvesting easier and reducing post-harvest weed control needs. Controls broader weed spectrum while offering better control of Flixweed, Mustards, Russian thistle, and Wild buckwheat. Controls large weeds. Allows for early treatment. Apply 5.3 ounces of this product with 0.1 ounce of Ally plus either 2 to 3 ounces of Diablo or 4 to 6 ounces of Banvel SGF per acre. The tank mix can be applied to Winter wheat and the four-leaf stage (tillering) prior to joint. It can be applied to Spring wheat from the four-leaf stage through the five-leaf stage. Growers who want to rotate to a sensitive crop following wheat and are concerned about carryover from Ally, can substitute Express in the tank mix which allows crop rotation 60 days after application. The recommended rate of Express is 1/6 oz. per acre.

**Using this product and Sencor as knockdown herbicides for no till:** This product with Sencor DF alone or in combination with Dual, Lasso, Surflan or Prowl may be applied as an early preplant surface application for the control of certain broadleaf weeds and grasses in soybeans in minimum or no-till products. Application is recommended 30 days prior to planting. Apply at rate of 1-1/3 pints of this product (1 pound A. I.) per acre with labeled rates of Sencor. Where grass herbicide is used in tank mix, apply at the rates specified on that product's label.

**Using this product and Aatrex for weed control in Christmas tree and forest plantings:** A tank mix of these two products can be used to control weeds and thus aid in the establishment of young transplants of Austrian pine, Bishop pine, Blue spruce, Douglas fir, Grand fir, Jeffrey pine, Knobcone pine, Loblolly pine, Lodgepole pine, Monterey pine, Nobel fir, Ponderosa pine, Scotch pine, Sitka spruce, Slash pine, and White fir.

The mix should be applied between fall and early spring, preferably in February or March, while trees are still dormant, or soon after transplanting. Weeds should not be more than 1-1/2 inches high. It can be applied with either ground or air equipment. Helicopters have been highly effective for reforestation applications or steep terrain. Uniform application is the key to good weed control. Use 20 to 40 gallons of water per acre for ground applications. When applying by air, use a minimum of 5 gallons of water. When applying by air, use a minimum of 5 gallons of water. When applying more than 5 pounds of Aatrex, use a minimum of 1 gallon of water for each 1 to 1-1/2 pounds of Aatrex. Be sure equipment is properly calibrated. All screens in the spray system -- nozzles, and in-line and suction strainers -- should be 15 mesh or coarser. Use a pump with capacity to maintain a nozzle pressure of 35 to 40 psi, and sufficient agitation to keep the mixture in suspension in the spray tank. If a nurse tank is used, keep the mixture agitated while awaiting transfer to the spray tank. Mix 2 to 4 quarts Aatrex 4 L or 2-1/2 to 5 pounds Aatrex 80W with 2/3 to 2 quarts of this product. The actual rate of Aatrex used should depend on soil type. Soils high in organic matter require higher rates than light to medium soils. **Band application to Christmas Trees** - Calculate the amount to be applied per acre. The band width in inches, divided by the rows spacing in inches, times the rate per acre for broadcast treatment will equal the amount needed per acre for band treatment. For example, when treating a 4-foot band over trees planted in rows of 8 feet apart, apply 1-1/4 to 2-1/4 pounds of Aatrex per acre. Please read Aatrex label(s) for additional instructions.

**Using this product and Turbo 8EC in reduced-tillage or no-till systems:** This product may be applied in combination with Turbo 8EC for the control of annual grasses and broadleaf weeds and the suppression of emerged perennial weeds when soybeans are directly seeded into a stale seedbed, cover crop or in previous crop residues. Special precautions: poor weed control and/or crop injury may result if directions are not followed. Do not use a rib-type press wheel on your no-till planter or crop injury may result. Apply at a rate of 1-1/3 pints of this product (1 pound A.I.) per acre with labeled rates of Turbo 8EC. Application is recommended 30 days prior to planting.

**Using this product and Poast as a burndown prior to planting soybeans:** For broad spectrum post-emergence weed control, a tank mix application of this product with Poast may be made for control of emerged broadleaf and grass weeds before planting soybeans. Apply at a rate of 1-1/3 pints of this product (1 pound A.I.) per acre with labeled rates of Poast up to 30 days prior to planting.

**Using this product with Scepter, Scepter 70 DG or Squadron in preplant applications in no-till soybeans:** For broad spectrum post-emergence weed control, a tank mix application of this product with Scepter, Scepter 70 DG or Squadron herbicides may be made for the control of emerged broadleaf and grass weeds before planting soybeans. Apply at a rate of 1/2 pound a.e. of this product (Prox. 2/3 pint) per acre up to 7 days prior to planting, or 1 lb. a.e. (Prox. 1-1/3 pints) per acre up to 30 days prior to planting, with labeled rates of Scepter, Scepter 70 DG or Squadron herbicides.

**Using this product and Tahoe 4E or Tahoe 3A tank mixtures for Non-Crop Areas:** Broadleaf Weed Control: Use 1-1/3 to 2-2/3 pints of this product per acre plus 2 to 6 pints Tahoe 4E (or 3 to 8 pints Tahoe 3A) per acre. For wider spectrum control of broadleaf weeds and woody plants, apply as a broadcast spray in enough water to wet all parts of the brush foliage, stem and bark. This may require 20 to 100 gallons of water per acre. Apply when broadleaf weeds are actively growing. Woody Plant Control Broadcast Foliar Spray: Use 2/3 gallons of this product per acre plus 1-1/2 to 3 quarts Tahoe 4E (or 2 to 4 quarts Tahoe 3A) per acre. Apply as a broadcast spray in enough water to wet all parts of the brush foliage, stem and bark. This may require 20 to 100 gallons of water per acre. Apply when woody plants are actively growing. Woody Plant Control High Volume Leaf-Stem Treatment with Ground Equipment: Use 2/3 to 2 -3/4 quarts of this product per acre plus 1-1/2 to 12 pints Tahoe 4E (or 2 to 16 pints Tahoe 3A) per acre. Mix 2/3 to 2 quarts of this product per acre plus 1-1/2 to 3 pints Tahoe 4 (or 2 to 4 pints Tahoe 3A) in enough water to wet all parts of the brush foliage, stem and bark. Higher spray volumes of 100 to 400 gallons of water per acre may be required depending on size and density of woody plants. Thoroughly wet all leaves, stems, and root collars of plants to be controlled. Woody Plant Control Aerial Application (Helicopter only): Use 2/3 gallons of this product per acre plus 3 to 4 quarts Tahoe 4E (or 4 to 6 quarts Tahoe 3A) per acre. Apply in enough water to wet all parts of the brush foliage, stem and bark. This may require 10 to 30 gallons of water per acre using drift control equipment such as Microfoil boom or an effective drift control agent such as Lo-Drift Spray Additive. Use the volumes when plants are dense or under drought conditions.

**Using this product and Diablo® Herbicide tank mixtures for Non-Crop Areas:** Annual Broadleaf Weeds: Use 1-1/3 to 2-2/3 pints of this product per acre plus 1/2 to 1-1/2 pints Diablo. For wider spectrum control of broadleaf weeds and woody plants, apply as a broadcast spray in enough water to wet all parts of the brush foliage, stem and bark. This may require 20 to 100 gallons of water per acre. Apply when broadleaf weeds are actively growing. Use the higher volumes when treating dense or tall vegetative growth. Perennial and Biennial Broadleaf Weeds: Use 2 to 3 pints of this product per acre plus 1/2 to 6 pints Diablo. Apply as a broadcast spray. Apply when broadleaf weeds are actively growing but prior to flowering. Use the lower rates for biennials less than 3 inches rosette diameter. Use the higher rate for perennial weeds or for biennial weeds past the 3 inch rosette stage. Woody Plant Control Broadcast, High Volume, Stem Foliage or Aerial Application: Use 2/3 gallons of this product per acre plus 2 to 8 quarts Diablo. Apply as a broadcast spray in enough water to wet all parts of the brush foliage, stem and bark. (20 to 100 gallons of water per acre) or apply as a high volume stem foliage spray in enough water to thoroughly wet leaves, stems, and root collars (100 to 400 gallons of water per acre) or apply aerially in enough water to wet all parts of the brush foliage, stem and bark. This may require 10 to 30 gallons of water per acre using drift control equipment such as Microfoil Boom or an effective drift control agent such as Lo-Drift Spray Additive. Use the higher rates and volumes when plants are dense or under drought conditions.

**Using this product and Patriot®, Spyder® and Telar®:** To improve control of some target species, this product may also be tank mixed with Patriot, Spyder, and Telar herbicides for post-emergent weed control. Tank mixes have shown improved control where resistant bio-types are present.

**NOTE:** All intended tank mix combinations should be used only in recommended areas on the same broadleaf weed species found on both labels. For application methods and other use specifications, use the most restricted limitations from labeling of both products.

**Maximum Seasonal Application Rate to non-crop and forestry sites is 4 pounds 2,4-D acid equivalent per acre per application site.**

### STORAGE AND DISPOSAL

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

**STORAGE:** This product should be stored in its original container in a cool, dry locked place out of the reach of children and out of direct sunlight. Do not use or store near heat or open flame.

**PESTICIDE DISPOSAL:** To avoid wastes, use all material in this container by application according to label directions. If waste cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

**CONTAINER DISPOSAL:** Nonrefillable container. Do not reuse or refill this container. Triple rinse (or equivalent) promptly after emptying. Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds, after the flow begins to drip. Fill the container full with water and soap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. If burned, stay out of smoke.

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

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