

HELENA Helena Chemical Company

Crossbow*

Specialty Herbicide

*Trademark of DowAgroSciences LLC

LOW VOLATILE WEED AND BRUSH HERBICIDE

For the control of most kinds of unwanted trees and brush, as well as annual and perennial broadleaf weeds on rangeland, permanent grass pastures, conservation reserve program (CRP) acres, fence rows, non-irrigation ditchbanks, roadsides, other non-crop areas and industrial sites

ACTIVE INGREDIENTS:

2,4-dichlorophenoxyacetic acid, butoxyethyl ester ¹	34.4%
triclopyr BEE: 3,5,6-trichloro-2-pyridinyloxyacetic acid, butoxyethyl ester.....	16.5%
INERT INGREDIENTS:	49.1%
TOTAL	100.0%

Contains Petroleum Distillates

Acid Equivalents: 2,4-dichlorophenoxyacetic acid -23.7% - 2 lb/gal triclopyr - 11.9% - 1 lb/gal

Isomer Specific by AOAC Method No. 978.05 (15th Ed.)

KEEP OUT OF REACH OF CHILDREN CAUTION PRECAUCION

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

PRECAUTIONARY STATEMENTS Hazards to Humans and Domestic Animals

FIRST AID

IF IN EYES:	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
IF SWALLOWED:	Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-424-9300 for emergency medical treatment information.

Note to Physician: This product may pose an aspiration pneumonia hazard. Contains petroleum distillates.

REFER TO LABEL BOOKLET FOR ADDITIONAL PRECAUTIONARY INFORMATION AND DIRECTIONS FOR USE.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

SN 112204/0605
EPA Reg. No. 62719-260-5905

EPA Est. 464-MI-1

NET CONTENTS: 1 Gallon (3.79 Liters)
 2.5 Gallons (9.46 Liters)

MANUFACTURED FOR
HELENA CHEMICAL COMPANY
225 SCHILLING BOULEVARD, SUITE 300
COLLIERVILLE, TENNESSEE 38017

PF-6854-1

PEEL BACK BOOK HERE AND RESEAL AFTER OPENING

LICENSED
HAWAII
DEPT. OF AGRICULTURE

Period 2006-2008 No. 9719.16



Department of Agriculture
STATE OF HAWAII

LICENSED

PERIOD **2009-2011** LIC. NO.



Department of Agriculture
STATE OF HAWAII

LICENSED

PERIOD **2012-2014** LIC. NO.



Department of Agriculture
STATE OF HAWAII

LICENSED

PERIOD **2015-2017** LIC. NO.

9719.16

RECEIVED
DEC 21 2005
Pesticides Branch

PRECAUTIONARY STATEMENTS
Hazards to Humans and Domestic Animals
CAUTION PRECAUCION

Causes Moderate Eye Irritation • Harmful If Swallowed • Prolonged Or Frequently Repeated Skin Contact May Cause Allergic Skin Reactions In Some Individuals

Avoid contact with eyes or clothing. When mixing, loading or applying this product or repairing or cleaning equipment, wear long-sleeved shirt, long pants, socks, shoes, chemical-resistant gloves and eye protection (face shield or safety glasses).

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. After each day of use, clothing or PPE must not be reused until it has been cleaned.

Notice: Read the entire label. Use only according to label directions. **Before using this product, read "Warranty Disclaimer," "Inherent Risks of Use," and "Limitation of Remedies" at end of label booklet. If terms are unacceptable, return at once unopened.**

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

ENGINEERING CONTROLS

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the WPS (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 immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This product is toxic to fish. Drift or runoff may adversely affect fish and nontarget plants. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

Triclopyr 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.

Mixing and Loading: 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.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store above 10°F or agitate before use.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

PLASTIC CONTAINER DISPOSAL: Do not reuse container. Triple rinse (or equivalent). Puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. Consult federal, state, or local disposal authorities for approved alternative procedures.

METAL CONTAINER DISPOSAL: Do not reuse container. Triple rinse (or equivalent). Puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. Consult federal, state, or local disposal authorities for approved alternative procedures.

CROSSBOW* herbicide is recommended for control of broadleaf weeds, growing on rangeland, permanent crop areas, and industrial sites.

General Use Precautions and Restrictions
 For use on plants in non-crop and non-timber area commercial use, or for commercial seed production. Apply this product only as specified on this label.

Be sure that use of this product conforms to all applicable laws and regulations.

Application Restrictions: Do not apply this product to protected handlers may be in the area.

Entry Restrictions: Do not allow worker entry into treated areas until the spray has dried.

In Arizona: The state of Arizona has not approved forests grown for commercial timber production, or

This product may not be applied to forage through

Chemigation: Do not apply this product through irrigation systems.

Foliar sprays should be applied during warm weather conditions may provide less than desirable results. Use to avoid contacting nearby susceptible crops or

gation or domestic use. Read and follow all instructions.

Do not use on bentgrass. Do not use on newly set seed. Do not reseed pastures within a minimum of three

months. Do not spray pastures containing desirable broadleaf crops can be tolerated. However, the stand and growth of

grazing is deferred.

Do not apply **CROSSBOW*** directly to, or other crops, citrus, flowers, fruit or ornamental trees, or

onto them.

Under conditions which are conducive to evaporation, excessive amounts of herbicide may be lost to the atmosphere.

Grazing and Haying Restrictions
 Except for lactating dairy animals, there are no grazing restrictions.

Grazing Lactating Dairy Animals: Do not allow grazing of lactating dairy animals on treated pastures.

Do not harvest hay for 14 days after application. Grazed areas of non-cropland and forestry sites may be used.

Slaughter Restrictions: During the season of slaughter, do not slaughter animals from treated pastures.

Avoid Injurious Spray Drift
 Applications should be made only when hazards to susceptible plants are not present.

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GENERAL INFORMATION

CROSSBOW* herbicide is recommended for control of most species of unwanted woody plants, as well as annual and perennial broadleaf weeds, growing on rangeland, permanent grass pastures, CRP, fence rows, non-irrigation ditchbanks, roadsides, other non-crop areas, and industrial sites.

General Use Precautions and Restrictions

For use on plants in non-crop and non-timber areas only. Not for use on crops, timber, or other plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes.

Apply this product only as specified on this label.

Be sure that use of this product conforms to all applicable regulations.

Application Restrictions: 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.

Entry Restrictions: Do not allow worker entry into areas until sprays have dried, unless applicator and other handler PPE is worn. **In Arizona:** The state of Arizona has not approved **CROSSBOW*** for use on plants grown for commercial production; specifically forests grown for commercial timber production, or on designated grazing areas.

This product may not be applied to forage that is to be cut and sold for commercial purposes.

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

Foliar sprays should be applied during warm weather when brush and weeds are actively growing. Application under drought conditions may provide less than desirable results. Use low spray pressures to minimize spray drift. **Apply CROSSBOW* in a manner to avoid contacting nearby susceptible crops or other desirable plants and to avoid contaminating water intended for irrigation or domestic use. Read and follow all use precautions given on this label.**

Do not use on bentgrass. Do not use on newly seeded grasses until grass has established a good root system and is tillering.

Do not reseed pastures within a minimum of three weeks after treatment.

Do not spray pastures containing desirable broadleaf forbs, especially legumes such as clover, unless injury or loss of such plants can be tolerated. However, the stand and growth of established grasses usually is improved, particularly when rainfall is adequate and grazing is deferred.

Do not apply **CROSSBOW*** directly to, or otherwise permit it to come into direct contact with cotton, grapes, tobacco, vegetable crops, citrus, flowers, fruit or ornamental trees, or other desirable broadleaf plants and do not permit spray mists containing it to drift onto them.

Under conditions which are conducive to evaporation (high temperatures and humidity), vapors from this product may injure susceptible crops growing nearby. Excessive amounts of this herbicide in the soil may temporarily inhibit seed germination and plant growth.

Grazing and Haying Restrictions

Except for lactating dairy animals, there are no grazing restrictions following application of this product.

Grazing Lactating Dairy Animals: Do not allow lactating dairy animals to graze treated areas until the next growing season following application of this product.

Do not harvest hay for 14 days after application.

Grazed areas of non-cropland and forestry sites may be spot treated if they comprise no more than 10% of the total grazable area.

Slaughter Restrictions: During the season of application, withdraw livestock from grazing treated grass at least 3 days before slaughter.

Avoid Injurious Spray Drift

Applications should be made only when hazards from spray drift are at a minimum. Very small quantities of spray, which may not be visible may seriously injure susceptible plants. Do not spray when wind is blowing toward susceptible crops or ornamental plants near enough to be injured. Spray drift can be reduced by adding a spray thickening agent such as Nalco-Trol or its equivalent to the spray mixture. If a spray thickening agent is used, follow all use recommendations and precautions on the product label.

With ground broadcast equipment, drift can be reduced by keeping the spray boom as low as possible; by applying no less than 20 gallons of spray per acre; by keeping the operating spray pressures at the lower end of the manufacturer's recommended pressures for the specific nozzle type used (low pressure nozzles are available from spray equipment manufacturers); and by spraying when the wind velocity is low (follow state regulations). Avoid calm conditions which may be conducive to air inversions. In hand-gun applications, select the minimum spray pressure that will provide adequate plant coverage (without forming a mist). The use of a mistblower is not recommended.

With aerial applications, use a drift control system such as Microfoil or Thru-Valve booms, or use Nalco-Trol or Arborchem 38-F drift control additive or equivalent. Keep spray pressures low enough to provide coarse spray droplets. Do not use a thickening agent with the Microfoil or the Thru-Valve booms, or other systems that cannot accommodate thick sprays.

Spray Drift Management

Avoiding spray drift at the application site related factors determine the potential for when making decisions.

The following drift management requirements:

1. The distance of the outermost operation.
2. Nozzles must always point backward.

Where states have more stringent regulations. The applicator should be familiar with local regulations. **Advisory.** (This information is advisory in nature.)

Aerial Drift Reduction Advisory

Information On Droplet Size: The most effective strategy is to apply the largest droplets that will not prevent drift if applications are made under conditions of low wind speed and Humidity, and Temperature Inversion.

Controlling Droplet Size:

- **Volume** – Use high flow rate nozzles to produce larger droplets.
- **Pressure** – Do not exceed the nozzle manufacturer's recommended pressure. When higher flow rates are used, larger droplets are produced.
- **Number of Nozzles** – Use the minimum number of nozzles that will provide adequate coverage.
- **Nozzle Orientation** – Orienting nozzle orientations and is the recommended potential.
- **Nozzle Type** – Use a nozzle type that will produce larger droplets. Consider using low drift nozzles.

Boom Length: For some use patterns, rather than reduce drift without reducing swath width.

Application Height: Applications should be made at a height that provides adequate safety clearance and wind protection.

Swath Adjustment: When applications are made downwind edges of the field, the applicator should adjust the swath width to compensate for drift.

Wind: Drift potential is lowest between wind speeds of 2 to 10 mph. Wind speeds above 10 mph determine drift potential at any given speed. Local terrain can influence drift potential. NOTE: Local terrain can influence spray drift.

Temperature And Humidity: When making applications, compensate for evaporation. Droplet evaporation is a function of temperature and humidity.

Temperature Inversions: Applications should be made when temperature inversions are not present. Temperature inversions restrict vertical air mixing, and the resulting cloud of droplets can move in unpredictable directions. They begin to form as the sun sets and continue through the night. Inversions can also be formed by fog that moves upward and rapidly dissipates.

Sensitive Areas: The pesticide should be applied to avoid sensitive areas (such as water bodies, known habitat for threatened or endangered species, and sensitive areas).

Eye and Skin Contact May Cause

... or cleaning equipment, wear eye protection (eye shield or safety glasses). Wash thoroughly with soap and water. Use detergent and hot water. Rinse repeatedly until it has been cleaned. Do not reuse until it has been cleaned. See the "Warranty Disclaimer," "Inherent Danger," and "Return at Once Unopened."

...ents listed in the WPS (40 CFR

...ing. As soon as possible, wash

...directly to water, to areas where it is not intended for use when cleaning equipment or

...e of this chemical in areas where it is not intended for use.

...as 2,4-D have been associated with such sites to prevent contamination. This reduces the probability of spills, leaks, and groundwater contamination.

...mixture, or rinsate is a violation of the FIFRA Act. See the label for instructions. Do not use at the nearest EPA Regional Office. Do not use in a sanitary landfill or for disposal of smoke. Do not use in a sanitary landfill or for disposal of approved





plants, as well as annual and perennial vegetation ditchbanks, roadsides, other non-

other plants being grown for sale or other

other persons, either directly or through

applicator and other handler PPE is worn. For commercial production; specifically

label purposes.

rowing. Application under drought conditions. Apply CROSSBOW in a manner to avoid contaminating water intended for irrigation.

a good root system and is tillering.

over, unless injury or loss of such plants particularly when rainfall is adequate and

with cotton, grapes, tobacco, vegetable or permit spray mists containing it to drift

injury from this product may injure susceptible seed germination and plant growth.

this product.

areas until the next growing season following

more than 10% of the total grazable area. Avoid grazing treated grass at least 3 days before

large quantities of spray, which may not be acceptable for crops or ornamental plants near water. Use Nalco-Trol or its equivalent to the spray tank on the product label.

as possible; by applying no less than 20 manufacturer's recommended pressures (manufacturer's); and by spraying when there are no air inversions. In hand-gun applications, avoid forming a mist. The use of a mistblower

do not use Nalco-Trol or Arborchem 38-F drift stickers. Do not use a thickening agent with sprays.

Spray Drift Management

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications:

1. The distance of the outermost operating nozzles on the boom must not exceed 3/4 the length of the helicopter rotor.
2. Nozzles must always point backward parallel with the airstream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered in the following **Aerial Drift Reduction Advisory**. (This information is advisory in nature and does not supersede mandatory label requirements.)

Aerial Drift Reduction Advisory

Information On Droplet Size: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

Controlling Droplet Size:

- **Volume** – Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** – Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles** – Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation** – Orienting nozzles so that the spray is released parallel to the airstream produced larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** – Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length: For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

Application Height: Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment: When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.)

Wind: Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature And Humidity: When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions: Applications should not occur during a local, low level temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of the smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas: The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

CROSSBOW* in water forms a suspension. Do not use in water.

Water Spray: Fill the spray tank before starting. Mix thoroughly before use.

Size of Sprayer (Gallons)
1
3
5
50
100

Maximum Use Rates:

- On rangeland and permanent pasture: 100 gallons per acre per year on range and pasture sites.
- On non-cropland, apply no more than 100 gallons per acre per year.

General Weed Control (See 1)

Broadcast Treatment (Ground): To deliver 10 to 30 gallons of total spray per acre, broadcast treatment is most effective when the control weeds such as field bindweed, spurge, and Canada thistle may be present. See "General Use Precautions" section.

Spot Treatment: To control bindweed and spurge, spray to thoroughly wet the soil.

General Weed Control

High-Volume Foliar Treatment
1% Mixture
Foliar Broadcast Application
1 qt/acre
blueweed (B)
buttercup, annual (A)
horseweed, (marestail) (A)
lambquarters, common (A)
mustard, wild (A)
ragweed, common (A)
spurge, thyme-leaf (A)



MIXING DIRECTIONS

CROSSBOW* in water forms an emulsion (not a solution), and separation may occur unless the spray mixture is agitated continuously.

Water Spray: Fill the spray tank about half full with clean water. Then add the **CROSSBOW*** and complete filling the tank with agitation running. Mix thoroughly and continue moderate agitation while spraying.

Size of Sprayer (Gallons)	Amount of CROSSBOW* Required for Spray Mixture		
	1%	1.5%	4%
1	1-1/3 fl oz	2 fl oz	5-1/3 fl oz
3	4 fl oz	6 fl oz	1 pt
5	6-2/3 fl oz	10 fl oz	1-2/3 pt
50	2 qt	3 qt	2 gal
100	1 gal	1.5 gal	4 gal

APPLICATION INSTRUCTIONS

Maximum Use Rates:

- On rangeland and permanent pastures, apply no more than 1 gallon (1 lb ae triclopyr + 2 lb ae 2,4-D) per acre per growing season on range and pasture sites, including rights of way, fence rows or any area where grazing or harvesting is allowed.
- On non-cropland, apply no more than 8 gallons (8 lb ae triclopyr + 16 lb ae 2,4-D) per acre per year.

General Weed Control (See Table)

Broadcast Treatment (Ground Equipment and Helicopter): Use up to 1-1/2 gallons of **CROSSBOW*** per acre in enough water to deliver 10 to 30 gallons of total spray per acre. Apply when weeds are actively growing. Best time for treatment of biennial and winter annual weeds is when the plants are in the rosette stage. Treat when plants are actively growing. Re-treatment of hard-to-control weeds such as field bindweed, chicory, dogfennel, goldenrod, horsenettle, kudzu, milkweed, perennial sowthistle, leafy spurge, and Canada thistle may be necessary. See recommendations regarding the use of drift control additives as listed in the "General Use Precautions" section under "Avoid injurious spray drift".

Spot Treatment: To control broadleaf weeds in small areas with a hand sprayer, use 4 to 6 fl. oz. of **CROSSBOW*** in 3 gallons of water and spray to thoroughly wet all foliage.

General Weed Control

High-Volume Foliar Treatment or Spot Treatment			
1% Mixture	1% Mixture	1 to 1.5% Mixture	1.5% Mixture
Foliar Broadcast Applications			
1 qt/acre	2 qt/acre	2 - 4 qt/acre	4 qt/acre
blueweed (B) buttercup, annual (A) horseweed, (marestail) (A) lambquarters, common (A) mustard, wild (A) ragweed, common (A) spurge, thyme-leaf (A)	bedstraw, annual (A) bluebur (A) burdock (B) clover, white sweet (B) clover, bur (A) cocklebur (A) croton, woolly (A) dogbane, hemp (P) (TG) ironweed, tall (P) lettuce, wild (A,WA) mustard, tansy (WA) radish, wild (A) ragwort, tansy (B) shepherd's purse (WA)	amaranth, spiny (A) buttercup, tall (P) chickweed, mouseear (P) clover, white (P) dandelion (P) dock, curly (P) galinsoga, hairy (A) goatsbeard (A,B) henbit (B,WA) ironweed, western (P) ivy, ground (P) kochia (A) lespedeza (A) oxalis (P) pennycress, field (WA) pepperweed, field (A,B) pigweed, redroot (A) plantain, broadleaf (P) plantain, narrow-leaf (P)	bindweed, field (P) (TG) carrot, wild (B) chicory (P) suppression cinquefoil (A,B,P) dogfennel (P) suppression fleabane, annual (A,B) goldenrod (P) (TG) horsenettle (P) kudzu (P) (TG) marshelder (A) milkweed (P) suppression pepperweed, perennial (P) pokeweed (P) sesbania, hemp (A) sowthistle, perennial (P) (TG) spurge, leafy (P) (TG) thistle, bull (B) thistle, Canada (P) (TG) thistle, musk (nodding) (B)

The interaction of many equipment and weather are responsible for considering all these factors

drift movement from aerial applications:
3/4 the length of the helicopter rotor.
jointed downwards more than 45 degrees.

covered in the following **Aerial Drift Reduction** dry label requirements.)

to apply large droplets. The best drift management of. Applying larger droplets reduces drift potential, environmental conditions (see Wind, Temperature

Nozzles with higher rated flows produce larger

For many nozzle types lower pressure produces instead of increasing pressure.
n coverage.

the airstream produced larger droplets than other izontal will reduce droplet size and increase drift

With most nozzle types, narrower spray angles proted straight back produce the largest droplets and

than 3/4 of the wingspan or rotor length may fur-

0 feet above the top of the largest plants unless a t that is safe reduces exposure of droplets to evap-

be displaced downwind. Therefore, on the up and nent by adjusting the path of the aircraft upwind. wind, smaller drops, etc.)

factors, including droplet size and equipment type : mph due to variable wind direction and high inver- should be familiar with local wind patterns and how

y, set up equipment to produce larger droplets to are both hot and dry.

al temperature inversion because drift potential is nded droplets to remain in a concentrated cloud, ommon during inversions. Temperature inversions ghts with limited cloud cover and light to no wind. sence can be indicated by ground fog; however, if e from a ground source or an aircraft smoke gen- ind conditions) indicates an inversion, while smoke

to adjacent sensitive areas (e.g., residential areas, rops) is minimal (e.g., when wind is blowing away



General Weed Control (cont.)

High-Volume Foliar Treatment or Spot Treatment			
1% Mixture	1% Mixture	1 to 1.5% Mixture	1.5% Mixture
Foliar Broadcast Applications			
1 qt/acre	2 qt/acre	2 - 4 qt/acre	4 qt/acre
		purslane, annual (A) sneezeweed, bitter (A) sowthistle, annual (A) sunflower (A) thistle, Russian (A) vetch (P) violet, wild (P) wormwood, biennial (B) yellow rocket (P;B)	yarrow (P)

(A) Annual
(B) Biennial
(P) Perennial
(TG) Top growth control only
(WA) Winter Annual

Repeat treatment may be necessary.

Note: Best time for treatment of biennial and winter annuals is when plants are in the rosette stage.

Use in Liquid Nitrogen Fertilizer: CROSSBOW* may be combined with liquid nitrogen fertilizer suitable for foliar application to accomplish weeding and feeding of grass pastures in one operation. Use CROSSBOW* in accordance with recommendations for grass pastures as given on this label. Use liquid fertilizer at rates recommended by supplier or Extension Service Specialist. Test for mixing compatibility using desired procedure and spray mix proportions in clear glass jar before mixing in spray tank. A compatibility aid such as Unite or Compex may be needed in some situations. **Compatibility is best with straight liquid nitrogen fertilizer solutions. Mixing with N-P-K solutions or suspensions may not be satisfactory even with the addition of compatibility aid.** Premixing CROSSBOW* with 1 to 4 parts water may help in difficult situations.

Fill the spray tank about half full with the liquid fertilizer, then add the herbicide with agitation and complete filling the tank with fertilizer. Apply immediately and continue agitation in the spray tank during application. **Do not store spray mixture.** Application during very cold weather (near freezing) is not advisable.

Note: Do not use spray equipment for other applications to land planted, or to be planted to susceptible crops or desirable plants, unless it has been determined that all phytotoxic herbicide residue has been removed by thorough cleaning of the equipment.

Conservation Reserve Program (CRP) For Established Permanent Grass Stands

Use CROSSBOW* on CRP acres only when the perennial grasses are established. Conditions that stress grasses, such as drought, will increase potential for injury to the grasses.

Restrictions: When applying to CRP lands, follow all applicable state and federal regulations. Follow the most severe grazing restriction imposed by the pesticide label or by the USDA Acreage Conservation Reserve Program. After that time period, follow local (CRP) guidelines regarding cropping and haying restrictions. Do not use CROSSBOW* if legumes are a desired cover crop during CRP. Do not use on bentgrass or newly seeded grass.

Broadcast Application (Ground or Aerial): Apply 1 to 2 quarts of CROSSBOW* for small weed control or up to 1.5 gallons of CROSSBOW* for deep-rooted perennial and susceptible woody species control using enough water to deliver 10 or more gallons of total spray volume per acre.

Follow precautions and recommendations outlined under Foliar Low-Volume Broadcast Applications.

For basal and dormant brush treatments, follow application directions listed in "Woody Plant Control".

Woody Plant Control

Easy-To-Control Species: 1.5 gal/acre broadcast application

alder	cottonwood
ash	dogwood
beech	elderberry
birch	hawthorn
blackberry	honeysuckle
black locust	maple
boneset	multiflora rose
casca	poison ivy
Ceanothus spp.	poison oak
cherry (except black)	

†basal or dormant stem application only

Harder-To-Control Species: High-volume application required. A broadcast rate of 2 gal/acre will increase effectiveness.

buckbrush (Symphoricarpos spp.)	pine (spruce)
(suppression)	Russia
common persimmon (suppression)	salmal
elm (except winged elm)	sweetgum
hazel	trumpet
honeylocust (suppression)	Virginia

High Volume Foliar Applications Through Hand Sprayers: containing 1 to 1-1/2 gallons of this product in sufficient quantities for preparing small amounts of this 1 to 1.

Spray to give thorough coverage of the foliage, wetting foliage density, the total amount of required spray is 10 to 15 gallons per acre.

For best results, applications should be made when vegetation is in full leaf in the spring to early summer when moisture stress is not expected during the early to mid-flower stage.

The required spray volume will increase substantially if applications are made on large brush or trees may be controlled better.

Foliar Broadcast Sprays (Ground Equipment)

Use 10 to 30 gallons total spray per acre. Use a boom type sprayer to apply to the top of the foliage and make applications when plants are in full leaf in the spring and continue into early summer. Foliar high-volume or basal type treatments may be necessary.

Aerial Application (Helicopter only): Use Nalco-Ti Microfoam boom, Thru-Valve boom, or equivalent drift reducing systems may be utilized if a spray thickening agent is used, follow all recommendations with the Microfoam or Thru-Valve booms or other systems.

Dormant Stem Applications: To control susceptible woody species, this product in diesel oil, No. 1 or No. 2 fuel oil or kerosene may be applied to the root collar and any ground sprout.

For the most susceptible woody species such as black locust, have been obtained with late winter to early spring applications. Apply mixture to thoroughly wet stems.

For the most susceptible woody species such as black locust, require total oil carrier for better control. Brush over 8 inches in diameter may be better suited for control of large trees.

Conventional Basal Bark and Stump Application: from cut stumps, mix 4 gallons of this product in diesel oil.

Spray the basal parts of brush or trees to a height of 6 inches above crown buds and ground sprouts. Spray runoff should be avoided.

Spray the basal parts of brush or trees to a height of 6 inches above crown buds and ground sprouts. Spray runoff should be avoided.



5% Mixture
qt/acre
row (P)

Woody Plant Control

Easy-To-Control Species: 1.5 gal/acre broadcast application or 1 to 1.5% mixtures for high-volume foliar applications.

alder	cottonwood	sassafras (top growth)
ash	dogwood	scotch broom
beech	elderberry	sumac
birch	hawthorn	sycamore
blackberry	honeysuckle	tamarack
black locust	maples (except bigleaf and vine†)	wax myrtle (top growth)
boneset	multiflora rose	white oak
casacara	poison ivy	wild grape
Ceanothus spp.	poison oak	willow
cherry (except black)		

†basal or dormant stem application only

Harder-To-Control Species: High-volume applications, 1.5% mixture, conventional basal or dormant stem applications are recommended. A broadcast rate of 2 gal/acre will increase the degree of control of these species.

buckbrush (<i>Symphoricarpos</i> spp.) (suppression)	pine (suppression)
common persimmon (suppression)	Russian olive
elm (except winged elm)	salmonberry (suppression)
hazel	sweetgum
honeylocust (suppression)	trumpet creeper (suppression)
	Virginia creeper (suppression)

High Volume Foliar Applications Through Handguns: Using a power or hand pressured spray-gun, apply a foliar wetting spray containing 1 to 1-1/2 gallons of this product in sufficient water to make 100 gallons of total spray mix. See mixing chart under "Mixing Directions" for preparing small amounts of this 1 to 1.5% spray mix.

Spray to give thorough coverage of the foliage, wetting all leaves and green stems to the drip point. Depending on the plant size and foliage density, the total amount of required spray is usually 100 to 200 gallons per sprayed acre.

For best results, applications should be made when woody plants are actively growing. This is most likely to occur for a period of full leaf in the spring to early summer when moisture and temperature are favorable. For multiflora rose control, the best time for treatment may be expected during the early to mid-flowering stage.

The required spray volume will increase substantially if the brush exceeds 5 feet in height. Brush over 8 feet tall is difficult to treat efficiently. Large brush or trees may be controlled better by basal or mechanical methods.

Foliar Broadcast Sprays (Ground Equipment and Helicopter): Apply 1.5 to 4 gallons of this product in enough water to deliver 10 to 30 gallons total spray per acre. Use a boom type or other broadcast spray equipment that provides uniform spray coverage over the top of the foliage and make applications when plants are growing well. The favorable period for treatment is most likely to occur after full leaf in the spring and continue into early summer, depending on soil moisture and other conditions. Follow-up treatment with foliar high-volume or basal type treatments may be needed, especially if treating under less favorable conditions.

Aerial Application (Helicopter only): Use Nalco-Trol or equivalent drift control additive as recommended by the manufacturer of the Microfoil boom, Thru-Valve boom, or equivalent drift control system. Thickened sprays prepared by using high viscosity invert systems or other drift reducing systems may be utilized if they control spray drift as well as Nalco-Trol or the above mentioned booms. If a spray thickening agent is used, follow all recommendations and precautions on the product label. Do not use a thickening agent with the Microfoil or Thru-Valve booms or other systems that cannot accommodate thick sprays.

Dormant Stem Applications: To control susceptible woody species such as multiflora rose and blackberry, mix 1 to 4 gallons of this product in diesel oil, No. 1 or No. 2 fuel oil or kerosene to make 100 gallons of spray and apply to thoroughly wet upper and lower stems including the root collar and any ground sprouts. Treat at any time when the brush is dormant and the bark is dry. Best results have been obtained with late winter to early spring applications. Do not treat when snow or water prevent spraying to the ground line. For the most susceptible woody species such as blackberries, substitute other diluents or oils only in accordance to manufacturer's recommendations. Apply mixture to thoroughly wet upper and lower stems as described above. The more tolerant species may require total oil carrier for better control. Brush over 8 feet in height is difficult to treat efficiently. Basal or mechanical methods may be better suited for control of large trees.

Conventional Basal Bark and Stump Applications: For control of susceptible woody plants and to prevent or control regrowth from cut stumps, mix 4 gallons of this product in diesel oil, No. 1 or No. 2 fuel oil or kerosene to make 100 gallons of spray mixture. Spray the basal parts of brush or trees to a height of 15 to 20 inches from the ground. Thoroughly wet all the basal bark area including crown buds and ground sprouts. Spray runoff should visibly wet the ground at the base of the stems or trunks. Basal and cut

stump applications can be made at any time have been obtained with winter to early spring to 8 inches. For better regrowth control, cut the freshly cut surface. The cambium layer ju

Thinline Basal Applications: For the control stems at a height where the stems are less than 1/2 inch in diameter, coverage may be best in late summer, when the plants are just about bare. Wherever a stem over 1/2 inch in diameter is present, additional herbicide is likely to be needed for Old stems with thickened bark require more than 1 result if sprouts are treated after they are 1/2 diameter.

TE

If terms of the following Warranty Disclaimer, package at once to the seller for a full refund in accordance of the terms under Warranty Disclaimer

Dow AgroSciences warrants that this product stated on the label when used in strict accordance MAKES NO OTHER EXPRESS OR IMPLIED ANY OTHER EXPRESS OR IMPLIED WARRANTY

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is suitable for foliar application in accordance with recommendations of the Extension Service or glass jar before mixing in compatibility is best with may not be satisfactory may help in difficult situations.

complete filling the tank with fertilizer mixture. Application during the growing season of desirable plants, cleaning of the equipment.

on grasses, such as drought,

on the most severe grazing. After that time period, follow the directions on the label for a desired cover crop.

control or up to 1.5 gallons of product to deliver 10 or more gallons of spray.





volume foliar applications.

- sassafras (top growth)
- scotch broom
- sumac
- ycamore
- amarack
- vax myrtle (top growth)
- white oak
- wild grape
- willow

Dormant stem applications are recom-

Apply with spray-gun, apply a foliar wetting spray or mix. See mixing chart under "Mixing"

Joint. Depending on the plant size and tree.

Most likely to occur for a period after a rose control, the best time for treat-

Over 8 feet tall is difficult to treat effi-

This product in enough water to deliver provides uniform spray coverage over the area for treatment is most likely to occur under favorable conditions. Follow-up treatment with favorable conditions.

Not recommended by the manufacturer of the product used by using high viscosity invert systems. Do not use the above mentioned booms or nozzles. Do not use a thickening agent.

For blackberry, mix 1 to 4 gallons of product with water to thoroughly wet upper and lower surfaces of stems and the bark is dry. Best results are obtained by spraying to the ground line. Only in accordance to manufacturer's directions. The more tolerant species may require higher concentrations. Basal or mechanical methods may

Use to prevent or control regrowth of stems and trunks. Basal and cut

stump applications can be made at any time of the year except when snow or water prevent spraying to the ground line. Best results have been obtained with winter to early spring applications. Basal treatments are less effective on trees with diameters larger than 6 to 8 inches. For better regrowth control, cut the larger trees and treat the stumps. Treat stumps the same as the trunks and also treat the freshly cut surface. The cambium layer just inside the bark is the most important area of the cut surface to treat.

Thinline Basal Applications: For the control of small multiflora rose, apply a horizontal thin line of undiluted herbicide across all the stems at a height where the stems are less than 1/2 inch in diameter and have thinner bark to penetrate. For bushes with large numbers of stems (over 3 or 4), coverage may be difficult. Basal bark or dormant stem applications may be more effective. Treat when the bark is dry and rain is not forecasted. Best time for multiflora rose control using this application method is during early spring to early summer, when the plants are just about breaking dormancy to actively growing. Apply approximately 20 ml undiluted product per bush. Wherever a stem over 1/2 inch in diameter is treated, it should be completely ringed with herbicide to obtain best results. Additional herbicide is likely to be needed for adequate coverage of these larger stems in a bush or clump.

Old stems with thickened bark require more herbicide than young stems with thin bark. Where regrowth is treated, better root kill may result if resprouts are treated after they are one year old and the bark has lost its green color, but before sprouts reach one inch in diameter.

TERMS AND CONDITIONS OF USE

If terms of the following Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. Otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitations of Remedies.

WARRANTY DISCLAIMER

Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

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2. Replacement of amount of product used.

Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. In no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

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LOW VOL
For the control of most kinds of brush, permanent grass ditchbanks, roadsides, other

ACTIVE INGREDIENTS:
2,4-dichlorophenoxyacetic acid
trifluroxypyr BEE; 3,5,6-trichloro-2
INERT INGREDIENTS:.....
TOTAL.....

Contains Petroleum Distillates
Acid Equivalents: 2,4-dichlorophenoxy
Tisomer Specific by AOAC Method

KE
CA

Si usted no entiende la etiqueta, busque a un

IF IN EYES:	Hold eye open and continue rinsing eye
IF SWALLOWED:	Immediately call a doctor. Give any liquid to

Have the product container or label
1-800-424-9300 for emergency me
Note to Physician: This product may pr

REFER TO LABEL BOOKLE

PESTICIDE DISPOSAL: Pesticide wastes c
inate groundwater. If these wastes cannot
the Hazardous Waste representative at the

SN 112204/0605
EPA Reg. No. 62719-260-5905



Job #12164



revent spraying to the ground line. Best results are effective on trees with diameters larger than 6 inches at stump height. Cut stumps the same as the trunks and also treat the area of the cut surface to treat.

Apply a thin line of undiluted herbicide across all the bark to penetrate. For bushes with large diameters, applications may be more effective. Treat when the application method is during early spring to early fall. Apply approximately 20 ml undiluted product per foot of trunk diameter with herbicide to obtain best results. Apply in a bush or clump.

Where regrowth is treated, better root kill may be seen color, but before sprouts reach one inch in length.

USE

Remedies are not acceptable, return unopened container to the buyer or any other user constitutes acceptance of Remedies.

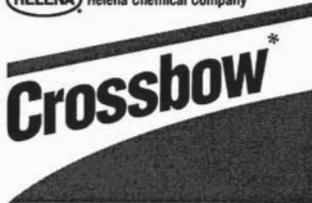
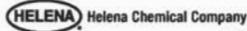
The label and is reasonably fit for the purposes intended. The inherent risks set forth below. Dow AgroSciences warrants the FITNESS FOR A PARTICULAR PURPOSE OR

lack of performance, or other unintended consequences (including conditions noted on the label) such as excessive rainfall, drought, tornadoes, hurricanes, or other natural events, all of which are beyond the control of Dow AgroSciences.

Remedies based on contract, negligence, strict liability, or other legal theory are excluded to the extent permitted by law.

Use of this product unless Dow AgroSciences specifically indicates otherwise. Dow AgroSciences does not warrant or accept any liability for consequential or incidental damages.

The use of Remedies cannot be varied by any written agreement or the seller is authorized to vary or exceed the label instructions.



Specialty Herbicide
*Trademark of DowAgroSciences LLC

LOW VOLATILE WEED AND BRUSH HERBICIDE

For the control of most kinds of unwanted trees and brush, as well as annual and perennial broadleaf weeds on rangeland, permanent grass pastures, conservation reserve program (CRP) acres, fence rows, non-irrigation ditchbanks, roadsides, other non-crop areas and industrial sites

ACTIVE INGREDIENTS:

2,4-dichlorophenoxyacetic acid, butoxyethyl ester ¹	34.4%
triclopyr BEE: 3,5,6-Trichloro-2-pyridinyloxyacetic acid, butoxyethyl ester	16.5%
INERT INGREDIENTS:	49.1%
TOTAL	100.0%

Contains Petroleum Distillates
Acid Equivalents: 2,4-dichlorophenoxyacetic acid - 23.7% - 2 lb/gal triclopyr - 11.9% - 1 lb/gal
Isomer Specific by AOAC Method No. 978.05 (15th Ed.)

KEEP OUT OF REACH OF CHILDREN CAUTION PRECAUCION	
<small>Si usted no entiende la etiqueta, busque a alguien para que le explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)</small>	
PRECAUTIONARY STATEMENTS	
Hazards to Humans and Domestic Animals	
FIRST AID	
IF IN EYES:	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
IF SWALLOWED:	Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-424-9300 for emergency medical treatment information.	
Note to Physician: This product may pose an aspiration pneumonia hazard. Contains petroleum distillates.	
REFER TO LABEL BOOKLET FOR ADDITIONAL PRECAUTIONARY INFORMATION AND DIRECTIONS FOR USE.	

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

SN 112204/0605
EPA Reg. No. 62719-260-5905
EPA Est. 464-MI-1
NET CONTENTS: 1 Gallon (3.79 Liters)
 2.5 Gallons (9.46 Liters)

**MANUFACTURED FOR
HELENA CHEMICAL COMPANY
225 SCHILLING BOULEVARD, SUITE 300
COLLIERVILLE, TENNESSEE 38017**