

2008-4011  
06-July-2009  
07-FEB-2011

2011-0584 : Notification : Corrections to contact information

((LABEL))

|              |          |                  |
|--------------|----------|------------------|
| <b>GROUP</b> | <b>4</b> | <b>HERBICIDE</b> |
|--------------|----------|------------------|

**Marks 2,4-D DMA 470**  
**LIQUID HERBICIDE**  
**AGRICULTURAL**

READ THE LABEL AND ATTACHED BOOKLET BEFORE USING

**GUARANTEE:**

2,4-D (present as dimethylamine salt) 470 g a.e./L  
Warning, contains the allergen soy

REGISTRATION NO. 27857  
PEST CONTROL PRODUCTS ACT



**CAUTION**

**POISON**

**SKIN IRRITANT**

**DANGER – CORROSIVE TO EYES AND SKIN**

NET CONTENTS:  
10 Litres

Notification Change

~~Nufarm Limited~~  
~~Wyke Lane, Wyke~~  
~~Bradford, West Yorkshire~~  
~~England, BD12 9EJ~~

Nufarm UK Limited  
Wyke Lane, Wyke, Bradford  
West Yorkshire BD12 9EJ  
England, UK

Canadian Agent:  
Nufarm Agriculture Inc.  
Suite 350, 2618 Hopewell Place NE,  
Calgary, Alberta T1Y 7J7  
Canada  
403-253-8471

Emergency Response Number 1-800-424-9300 (24 hours a day)

**PRECAUTIONS: KEEP OUT OF REACH OF CHILDREN.** Harmful if swallowed. Corrosive to eyes. **DO NOT** get in eyes. May irritate skin. Avoid contact with skin. Do not inhale fumes. Avoid breathing spray mist.

If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U.S., visit CropLife Canada's website at: [www.croplife.ca](http://www.croplife.ca)

### **ENVIRONMENTAL HAZARDS**

Toxic to small mammals, birds, aquatic organisms and non-target terrestrial plants.

Observe buffer zones specified under DIRECTIONS FOR USE.

This product will harm other broadleaved plants in the vicinity of the treatment area. If applying this product using a handheld sprayer, do not directly spray or allow the spray to drift onto ornamentals or gardens.

Do not spray exposed roots of trees and ornamentals.

### **Leaching**

The use of this chemical may result in contamination of groundwater particularly in areas where soils are permeable (e.g. sandy soil) and/or the depth to the water table is shallow.

### **Runoff**

To reduce runoff from treated areas into aquatic habitats avoid application to areas with moderate to steep slope, compacted soil, or clay.

Avoid application of this product when heavy rain is forecast.

Contamination of aquatic areas as a result of runoff may be reduced by including a strip of untreated vegetation between the treated area and the edge of the water body.

To prevent runoff avoid spraying on driveways, sidewalks or other hard surfaces. Do not irrigate within 24 hours after application.

### **PROTECTIVE CLOTHING AND EQUIPMENT:**

#### **HANDLING THE CONCENTRATE (MIXING AND LOADING):**

Wear coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes and protective eye wear (face shield or safety glasses). Rinse gloves before removal. When handling more than 265 kg a.e. per day, workers must also use a closed system.

#### **HANDLING THE DILUTE SPRAY SOLUTION (DURING APPLICATION OR REPAIRING OR CLEANING EQUIPMENT):**

Wear coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes. Chemical resistant gloves must also be worn during clean-up and repair activities. Rinse gloves before removal. Gloves are not required during application when applicator is in an enclosed tractor or in an enclosed airplane cockpit. No human flaggers are permitted

**POST-APPLICATION:** There should be no need to wear protective clothing when entering the crop post-application. The product is rain-fast within 24 hours and therefore no significant residues should be transferred to workers entering the crop. Marks 2,4-D DMA 470 is rapidly and completely degraded following application, with an average half-life of 5-6 days.

**OPERATOR USE PRECAUTIONS:**

Wear freshly laundered clothing and clean protective equipment daily.

Rinse gloves before removal.

Wash hands before eating, drinking, using tobacco or using the toilet.

If herbicide penetrates clothing, remove immediately, then wash thoroughly and put on clean clothing. Throw away clothing and other absorbent materials that have been heavily contaminated with this product's concentrate.

After using this product, remove clothing and launder separately and promptly, and thoroughly wash hands and exposed skin with soap with soap and water. Follow manufacturer's instructions for cleaning personal protective equipment. If no such instructions for washables are provided, use detergent and hot water. Keep and wash personal protective equipment separate from household laundry.

After work, remove all clothing and shower using soap and water.

**FIRST AID**

**IF SWALLOWED:** Call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

**IF ON SKIN/CLOTHING:** Take off contaminated CLOTHING. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice.

**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 centre or doctor for treatment advice.

**GENERAL:** Seek medical attention immediately if irritation persists or is severe. Take the container label or product name and Pest Control Product Registration Number with you when seeking medical attention.

**TOXICOLOGICAL INFORMATION:** 2,4-D may cause severe irritation to the eyes. Overexposure to 2,4-D may cause coughing, burning, dizziness or temporary loss of muscle coordination. Other possible effects of overexposure include fatigue, muscle weakness or nausea. Treat symptomatically.

**STORAGE:** Store container tightly closed and away from seeds, feeds, fertilizer, plants and foodstuffs. Protect from freezing. Product exposed to subfreezing temperatures should be warmed to 5°C and mixed thoroughly before using. Insecticides and fungicides

should be segregated from herbicides so as to prevent the possibility of cross-contamination. SHAKE WELL BEFORE USING.

## **DISPOSAL**

### **For Recyclable Containers:**

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site.

Contact your local distributor/dealer or municipality for the location of the nearest collection site.

Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

### **For Returnable Containers:**

Do not reuse this container for any purpose. For disposal, this empty container may be returned to the point of purchase (distributor/dealer).

### **For Returnable-Refillable Containers:**

For disposal, this container may be returned to the point of purchase (distributor/dealer). It must be refilled by the distributor/dealer with the same product. Do not reuse this container for any other purpose.

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

**NOTICE TO USER:** This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of the product.

((BOOKLET))

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**PROTECTIVE CLOTHING AND EQUIPMENT:  
HANDLING THE CONCENTRATE (MIXING AND LOADING):**

Wear coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes and protective eye wear (face shield or safety glasses). Rinse gloves before removal. When handling more than 265 kg a.e. per day, workers must also use a closed system.

**HANDLING THE DILUTE SPRAY SOLUTION (DURING APPLICATION OR REPAIRING OR CLEANING EQUIPMENT):**

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**POST-APPLICATION:** There should be no need to wear protective clothing when entering the crop post-application. The product is rain-fast within 24 hours and therefore no significant residues should be transferred to workers entering the crop. Marks 2,4-D DMA 470 is rapidly and completely degraded following application, with an average half-life of 5-6 days.

**OPERATOR USE PRECAUTIONS:**

Wear freshly laundered clothing and clean protective equipment daily. Rinse gloves before removal.

Wash hands before eating, drinking, using tobacco or using the toilet.

If herbicide penetrates clothing, remove immediately, then wash thoroughly and put on clean clothing. Throw away clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. After using this product, remove clothing and launder separately and promptly, and thoroughly wash hands and exposed skin with soap and water. Follow manufacturer's instructions for cleaning personal protective equipment. If no such instructions for washables are provided, use detergent and hot water. Keep and wash personal protective equipment separate from household laundry.

After work, remove all clothing and shower using soap and water.

## **DIRECTIONS FOR USE**

### **USE PRECAUTIONS:**

DO NOT apply this product directly to freshwater habitats such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands, estuaries or marine habitats. DO NOT contaminate irrigation/drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

- Coarse sprays are less likely to drift, therefore, avoid combinations of pressure and nozzle type that will result in fine particles (mist). Do not apply when wind velocity and direction pose a risk of spray drift. Use caution when the wind is blowing towards a nearby sensitive crop, garden, terrestrial habitat (such as shelter- belt) or aquatic habitat.
- Avoid spray drift to any desirable vegetation NOT listed on this label as damage may occur. Small quantities of the spray which may not be visible may seriously injure susceptible crops and damage sensitive non-target habitat. A method must be used to detect air movement, lapse conditions, or temperature inversions (stable air) such as the use of balloons or a continuous smoke column at or near the spray site or a smoke generator on the spray equipment. If the smoke develops into layers or indicates a potential for hazardous spray drift, do not spray.
- A spray thickening agent or drift retardant may be used with this product to aid in reduction of spray drift.

**MIXING:** Shake this product well before using. Half fill the spray tank with clean water. Add the required amount of product and agitate thoroughly. Fill tank with clean water and agitate well before use. NOTE: If spray solution has been left standing, agitate thoroughly before use.

**TRANSFER SYSTEMS FOR CONTAINERS LARGER THAN 20 L:** Use a transfer system that avoids open pouring when transferring the liquid concentrate from such containers into the spray tank.

**SPRAYER:** Clean all spray equipment thoroughly before use. Select nozzle tips to apply the recommended volume per hectare. Higher water volumes will reduce the risk of crop injury. Calibrate the sprayer and adjust the boom height to ensure uniform coverage. Nozzles must be in good condition and spraying the same volume. Flat fan nozzle tips are recommended.

**CLEANING OF SPRAYER:** Thoroughly clean the herbicide sprayer before applying any other chemical on crops which may be damaged (see USE PRECAUTIONS). Wash the outside of the sprayer and drain the tank completely. Remove and clean filters, screens and nozzle tips separately. Fill the sprayer tank with water. With the agitator running flush out the lines and boom, then drain. Fill the sprayer with clean water and use

TANK and EQUIPMENT CLEANER or for each 100 L add 1 L household ammonia. Operate the pump and agitator for 15 minutes. If possible, let the solution remain in the tank and hoses overnight; recirculating and drain each time. DO NOT contaminate irrigation or drinking water when cleaning the sprayer.

### **PRODUCT SPECIFIC PRECAUTIONS**

Read and understand the entire label before opening this product. If you have questions, call the manufacturer at (+44 1274 691234) or obtain technical advice from the distributor or your provincial agricultural representative. Application of this specific product must meet and/or conform to the following:

RE-ENTRY- All crops 12-hour restricted-entry interval (REI)

### **CROP USE:**

DO NOT APPLY MORE THAN ONCE PER GROWING SEASON.

### **GROUND APPLICATION**

- Apply 50-200 L of spray solution per hectare depending on the type of application equipment used. Use sufficient water for even distribution.
- Spray at low pressures (200-275 kPa) when the weeds are actively growing.
- Do not spray in winds exceeding 25 km per hour.

Field sprayer application: DO NOT apply during periods of dead calm. Avoid application of this product when winds are gusty. DO NOT apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE) coarse classification. Boom height must be 60 cm or less above the crop or ground.

**AERIAL APPLICATION:** (to cereal crops, grass crops, pasture, rangeland, stubble and non-cropland)

Apply only by fixed-wing or rotary aircraft equipment which has been functionally and operationally calibrated for the atmospheric conditions of the area and the application rates and conditions of this label.

Label rates, conditions and precautions are product specific. Read and understand the entire label before opening this product. Apply only at the rate recommended for aerial application on this label. Where no rate for aerial application appears for the specific use, this product cannot be applied by any type of aerial equipment.

Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Apply a minimum of 30 L of spray solution per hectare depending on the type of application system being used. Use boom pressures of 235 kPa or less. Avoid placing nozzles where spray will enter wing tip vortices.

### **Aerial Use Precautions**



Apply only when meteorological conditions at the treatment site allow for complete and even crop coverage. Apply only under conditions of good practice specific to aerial application as outlined in the National Aerial Pesticide Application Manual, developed by the Federal/Provincial/Territorial Committee on Pest Management and Pesticides.

Aerial application: DO NOT apply during periods of dead calm. Avoid application of this product when winds are gusty. DO NOT apply when wind speed is greater than 16 km/h at flying height at the site of application. DO NOT apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE) coarse classification. To reduce drift caused by turbulent wingtip vortices, the nozzle distribution along the spray boom length MUST NOT exceed 65% of the wing- or rotorspan.

Do not use human flaggers.

### **Aerial Operator Precautions**

Do not allow the pilot to mix chemicals to be loaded onto the aircraft. Loading of premixed chemicals with a closed system is permitted. It is desirable that the pilot has communication capabilities at each treatment site at the time of application.

The field crew and the mixer/loaders must wear coveralls over long sleeved shirt and long pants, chemical resistant gloves, socks and shoes, and goggles or face shield during mixing/loading, clean-up and repair. Follow the more stringent label precautions in cases where the operator precautions exceed the generic label recommendations on the existing ground boom label.

All personnel on the job site must wash hands and face thoroughly before eating and drinking. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.

**TIMING:** For best results spray when WEEDS ARE YOUNG AND ACTIVELY GROWING. Apply in good growing conditions. Application must be made before the crop canopy shields the weeds.

**SPOT TREATMENT:** For spot treatment of weeds such as thistles with knapsack, mix 280 mL of product in 10 L of water. Wet all foliage thoroughly.

**SELECTIVE WEED CONTROL IN SMALL GRAINS:** Weeds differ in their susceptibility to Marks 2,4-D DMA 470, and not all types can be controlled satisfactorily in crops. The amount of Marks 2,4-D DMA 470 to use will depend upon the susceptibility and whether the crops will tolerate this amount.

**WHEAT, BARLEY, RYE (not underseeded with legumes):** Crop may be sprayed from the 4-leaf to the early flag leaf (shot blade) stage. Do not apply after the flag leaf stage. Treatment at the 4-leaf stage usually combines maximum crop tolerance with maximum weed susceptibility.

The recommended rate is 0.7 to 1.1 L/ha.

Higher rates may be needed to control certain weed species. Possible crop injury from these higher rates is usually offset by increased yield of the cleaner crop. If applying by ground use 50 or more L/ha of water. Spraying with higher volumes of water (100-150 L/ha of water) may reduce the risk of crop injury.

**PREHARVEST INTERVALS:**

Do not permit lactating dairy animals to graze treated fields within 7 days after application.

Do not harvest forage or cut hay within 30 days after application.

Withdraw meat animals from treated fields at least 3 days before slaughter.

**FALL RYE, WINTER WHEAT:** Treat in the spring between full tillering and just before the flag leaf stage. **DO NOT APPLY DURING AND AFTER THE FLAG LEAF STAGE. DO NOT** apply in the fall.

The recommended rate is 0.7 to 1.1 L/ha.

Higher rates may be needed to control certain weed species. Possible crop injury from these higher rates is usually offset by the increased yield of the cleaner crop. If applying by ground use 50 or more L/ha of water. Spraying with higher volumes of water (100-150 L/ha) may reduce the risk of crop injury.

**PREHARVEST INTERVALS:**

Do not permit lactating dairy animals to graze treated fields within 7 days after application.

Do not harvest forage or cut hay within 30 days after application. Withdraw meat animals from treated fields at least 3 days before slaughter.

**FIELD CORN:** Apply as an overall spray before the corn is 15 cm tall (leaf extended) and/or before the 6-leaf stage. **DAMAGE TO THE CORN MAY OCCUR IF AN OVERALL SPRAY IS APPLIED BEYOND THIS STAGE.**

The recommended rate for an overall spray is 0.55 to 1.1 L/ha.

Do not exceed this rate for an overall spray. For later applications (corn 15-75 cm leaf extended) a shielded spray or directed spray with drop pipes is necessary. Keep spray off the corn foliage. **DO NOT** apply within 2 weeks of silking and tasselling. Use 100 or more L/ha of water. In case of very dry conditions, delay spray until one week following rain. Avoid cultivation for 2 weeks following spraying.

**DO NOT** add oil or surfactant.

**PREHARVEST INTERVALS:**

Do not permit lactating dairy animals to graze treated fields within 7 days after application.

Do not harvest as forage within 30 days after application.

Withdraw meat animals from treated fields at least 3 days before slaughter.

**GRASS CROPS - FOR FORAGE AND SEED PRODUCTION:**

Seedling Stage - Stand Establishment. May be used on seedling grasses from the 3-leaf to just before the shot-blade stage of development.

Spray thoroughly 0.585 to 1.1 L/ha of product in 100 to 200 L water.

Established Grasses: May be used in the spring up to the shot-blade stage of the grass or in the fall after harvest to control annual and biennial broad-leaved weeds.

On seed crops do not exceed 1.1 L/ha of product. On established stands of forage grasses grown for hay or pasture, spray thoroughly using 0.7 to 2.3 L/ha of product in 100 to 300 L water.

Late germinating weeds such as red bartsias may be controlled at 1.1 L/ha of product after the first hay crop has been removed.

Do not use during flower development or pollination or seed yields will be reduced.

**PRE-HARVEST INTERVALS:**

Do not permit lactating dairy animals to graze treated fields within 7 days after application.

Do not harvest forage or cut hay within 30 days after application.

Withdraw meat animals from treated fields at least 3 days before slaughter.

**ESTABLISHED PASTURES AND RANGELAND (without legumes):**

Apply at the time of rapid growth (usually May, June and/or September).

Spray thoroughly using 1.8 to 4.7 L/ha of Marks 2,4-D DMA 470 in 100 to 300 L of water. (Use the higher rate for perennial weeds; a second treatment may be required for spot spraying).

Apply only after pasture has been grazed or cut and weed growth has resumed. There is a possibility that plants poisonous to livestock will appear more palatable and could be grazed more readily after a Marks 2,4-D DMA 470 treatment (eg: tansy ragwort, water hemlock, poison hemlock, death camas). Suitable precautions should be taken when such plants are present. Livestock should not be allowed to graze the treated area until poisonous plants have been removed, are dead or have resumed a normal growth habit. Under conditions of good growth and adequate soil moisture, sprays can be applied up to 2 weeks before normal frost time.

**PREHARVEST INTERVALS:**

Do not permit lactating dairy animals to graze treated fields within 7 days after application.

Do not harvest forage or cut hay within 30 days after application.

Withdraw meat animals from treated fields at least 3 days before slaughter.

**ASPARAGUS (Eastern Canada only):** Apply early in the season immediately after a thorough cutting or disking. The recommended rate is 2 to 2.75 L/ha. If emerging spears are contacted directly by spray drift they may become distorted ie: twisted. Spears emerging afterwards will be normal. Marks 2,4-D DMA 470 may also be applied 3 weeks after a post harvest disking with a directed spray to avoid the fern.

Apply 2 to 2.75 L/ha in 50 to 200 L of water by ground application.

Observe a pre-harvest interval of 3 days.

**CRANBERRY:** Apply as an over the top wipe on application to actively growing weeds (June - July).

Apply at a rate of one part Marks 2,4-D DMA 470 to two parts water (33% solution). Injury will result if the crop is contacted. Apply one application per year and observe a pre-harvest interval of 50 days.

Weeds Controlled: All labeled weeds as well as Hardhack, St. Johnswort, Alder and Purple Aster.

**STRAWBERRIES (Eastern Canada only):** Apply 2 to 4 weeks AFTER PLANTING, but before the runners root in June.

Use 0.97 L/ha in 100 to 200 L of water by ground application. A low-pressure nozzle and coarse spray are recommended to reduce drift.

**Renovation Treatment:** Apply 0.95 L/ha in 100 to 200 L of water after harvest but before mowing. Delay mowing for a few days after application. DO NOT apply between mid-August and fall dormancy because of possible damage to flower bud formation. Veestar is more sensitive than Redcoat. This treatment may cause temporary distortion of leaves.

**RASPBERRIES (Eastern Canada only):** Apply at any time EXCEPT DURING BLOOM. Avoid spraying new shoots.

Apply 1.1 L/ha in 100 to 200 L of water by ground application. Higher rates may be used for spot treatments.

**BEARING FRUIT TREES:** Apple, Peach, Pear, Plum, Apricot, Sweet and Sour Cherry. Treatment Stage: Apply in the early spring after weed emergence, but in compliance with pre-harvest interval of 80 days or post-harvest to actively growing broadleaf weeds. DO NOT APPLY BY AIR.

**Weeds Controlled:** Plantains, Dandelion, Curled Dock, Mustards, Redroot Pigweed, Prostrate Pigweed, Russian Pigweed Common Ragweed, Shepherd's Purse, Lamb's-Quarters, Stinkweed, Cocklebur, Prickly Lettuce, Narrow-Leaved Hawk's Beard (fall rosette or spring at 1-2 Leaf Stage), Russian Thistle, seedling Sow Thistle and seedling Canada Thistle.

Rate of Application: 2 L/ha

Pre-harvest Interval: Do not apply to weeds within 80 days of harvest of fruit crop.

Precaution: Do not apply when usable fruit is on the orchard floor.

Re-entry Interval: Do not allow people (other than applicators) or pets into treatment area during application. Do not enter treated area until spray has thoroughly dried.

**NON CROP USES:**

DO NOT APPLY MORE THAN ONCE PER YEAR.

**GROUND APPLICATION:** Apply 50-300 L of spray solution per hectare depending on the type of application system being used. Use sufficient water to ensure uniform coverage.

**AERIAL APPLICATION (STUBBLE LAND AND UNCROPPED LAND ONLY):** (including fixed and rotary wing aircraft). Apply a minimum of 30 L of spray solution per hectare. Use boom pressures of 235 kPa or less. Avoid placing nozzles where spray will enter wing tip vortices. (See use precautions for Aerial Application).

**STUBBLE LAND, ROADSIDES, UNCROPPED LAND: DO NOT APPLY BY AIR TO ROADSIDES.** Apply at the time of rapid growth (usually May, June and/or September). Spray thoroughly using 1.8 to 3.3 L/ha of product in 100 L or more of water if applying by ground. (Use the higher rate for perennial weeds and susceptible woody growth). Cultivating grain stubble and spraying after regrowth may aid in control. **DO NOT** apply on freshly seeded grasses and pastures until established. There is a possibility that plants poisonous to livestock will appear more palatable and could be grazed more readily after Marks 2,4-D DMA 470 treatment (eg: tansy ragwort, water hemlock, poison hemlock, death camas). Suitable precautions should be taken when such plants are present. Livestock should not be allowed to graze the treated area until poisonous plants have been removed, are dead or have resumed a normal growth habit. Under conditions of good growth and adequate soil moisture, sprays can be applied up to 2 weeks before normal frost time. Hand-held equipment: maximum 2700g a.e./day/person.

**PREHARVEST INTERVALS:**

Do not permit lactating dairy animals to graze treated fields within 7 days after application.

Do not harvest forage or cut hay within 30 days after application.

Withdraw meat animals from treated fields at least 3 days before slaughter.

**WOODY GROWTH (non-grazing):** Apply at time of rapid growth (usually May, June and/or September). Prepare a spray solution by mixing 3.6 to 9.5 L of product in 1000 L of water if applying by ground or in 55 L of water if applying by air. Use the lower rate for species that are more susceptible such as chokeberry, western snowberry and willow. Depending on the density of the brush, 1000 to 3000 L/ha of spray solution may be required per hectare if applying by ground or 55 to 165 L/ha of spray solution may be required if applying by air.

Spray brush species up to 3 metres tall after foliage is well developed. Applications soon after leaves are fully open usually give the best results. Apply sufficient spray volume to thoroughly wet all plant parts to the ground line. Brush or trees above 3 m tall should be cut close to the ground and sprayed when the regrowth is over 0.6 m tall. With good growing conditions and adequate soil moisture, sprays may be applied up to 2 to 3 weeks before normal frost time. Hand-held equipment: maximum 5000 g a.e./day/person without a respirator or maximum 8000 g a.e./day/person with a respirator.

**WEEDS CONTROLLED**

**Do not exceed the application rates given for each specific crop in the Directions for Use section**

**SUSCEPTIBLE** easy-to-control weeds in the seedling stage (2 to 4 leaf) and growing rapidly. Use 0.7 to 1.1 L/ha. Use the higher rate for larger weeds, dry or cold weather, or heavy infestations.

Bluebur, burdock (before 4-leaf stage), cocklebur, common plantain, daisy fleabane, false flax, false ragweed, flixweed, goat's beard, kochia, lamb's-quarters (including triazine resistant types), mustards (except dog and tansy), prickly lettuce, ragweeds (common and giant - including triazine resistant types), redroot pigweed (including triazine resistant types), Russian pigweed, Russian thistle, shepherd's purse, stinging nettle, stinkweed, sweet clover, thyme-leaved spurge, volunteer canola, wild radish, wild (prairie) sunflower.

**LESS SUSCEPTIBLE** harder-to-control weeds in the seedling stage (2 to 4 leaf) and growing rapidly. Use 1.2 to 1.8 L/ha. Use the higher rate for larger weeds, dry or cold weather, or heavy infestations.

Weeds listed under susceptible plus annual sow thistle, blue lettuce, biennial wormwood, common chickweed, common purslane, curled dock (before the 4-leaf stage), dog and tansy mustard, oak-leaved goosefoot, groundsel, gumweed, hairy galinsoga, hawkweed, heal-all, hedge bindweed, knotweed (before the 4-leaf stage), kochia, leafy spurge, lady's thumb, peppergrass, pineappleweed, prostrate pigweed, purslane, Russian knapweed, sheep sorrel, smartweed, tumble pigweed, velvet leaf, volunteer canola, wild buckwheat, yellow rocket (before the 4-leaf stage).

**TOP GROWTH CONTROL ONLY:** Use 1.2 to 1.8 L/ha.

Biennial wormwood, blue lettuce, bull thistle, burdock, buttercup, Canada thistle, field bindweed, field dandelion, gum weed, hedge bindweed, hoary cress, leafy spurge, mouse-eared chickweed, perennial sowthistle, Russian knapweed, tartary buckwheat, teasel, volunteer sunflower, wild buckwheat, yellow rocket. Only rates greater than 1.8 L/ha will suppress top growth of hemp nettle and horsetail.

## **RESISTANCE-MANAGEMENT RECOMMENDATIONS**

### **Resistance-Management Recommendations**

For resistance management, Marks 2,4-D DMA 470 is a Group 4 herbicide. Any weed population may contain or develop plants naturally resistant to Marks 2,4-D DMA 470 and other Group 4 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Other resistance mechanisms that are not linked to site of action, but specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance-management strategies should be followed.

To delay herbicide resistance:

Where possible, rotate the use of Marks 2,4-D DMA 470 or other Group 4 herbicides with different herbicide groups that control the same weeds in a field.

Use tank mixtures with herbicides from a different group when such use is permitted.

Herbicide use should be based on an IPM program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage (or other mechanical), cultural, biological and other chemical control practices.

Monitor treated weed populations for resistance development.

Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment and planting clean seed.

Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.

For further information and/or suspected resistance, contact Nufarm Limited company representatives at 403-253-8471.

### Buffer Zones to Protect Sensitive Habitat

Use of the following spray methods or equipment DO NOT require a buffer zone: hand-held or backpack sprayer and spot treatment. Seasonal water bodies require buffer zones if there is water in them during application. Water bodies which do not fill on an annual basis need not be buffered.

The buffer zones specified in the tables below are required between the point of direct application and the closest downwind edge of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, riparian areas and shrublands), sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands), and estuarine/marine habitats.

### Buffer Zones for the Protection of Aquatic and Terrestrial Habitats

| Method of Application | Crop  | Buffer Zones† (metres) Required for the Protection of: |                  |                                      |                  |                      |    |
|-----------------------|---|--|------------------|--------------------------------------|------------------|----------------------|----|
|                       |   | Freshwater Habitat of Depths:                          |                  | Estuarine/Marine Habitats of Depths: |                  | Terrestrial Habitat‡ |    |
|                       |   | Less than 1 m  | Greater than 1 m | Less than 1 m                        | Greater than 1 m |                      |    |
| Field sprayer*        | Field crops (cereal grains, corn, asparagus, strawberries, raspberries)               | 1  | 0                | 1                                    | 0                | 1                    |    |
|                       | Grasslands, crop stubble, pastures, rangelands non-cropland (including brush control) | 1  | 0                | 1                                    | 0                | 2                    |    |
| Aerial                | Field crops (cereal grains, corn)   | Fixed wing   | 1                | 0                                    | 1                | 0                    | 45 |
|                       |   | Rotary wing  | 1                | 0                                    | 1                | 0                    | 40 |
|                       | Grasslands, crop stubble, pastures and rangelands                                     | Fixed wing   | 1                | 0                                    | 1                | 0                    | 60 |

|   |                 |             |   |   |   |   |       |
|---|-----------------|-------------|---|---|---|---|-------|
|   |                 | Rotary wing | 1 | 0 | 1 | 0 | 50    |
| Non-cropland (including uncropped land** and brush control) | 2.24 kg a.e./ha | Fixed wing  | 1 | 0 | 1 | 0 | 150** |
|   |                 | Rotary wing | 1 | 0 | 1 | 0 | 80**  |
|   | 4.48 kg a.e./ha | Fixed wing  | 2 | 0 | 2 | 0 | 225** |
|   |                 | Rotary wing | 1 | 0 | 1 | 0 | 100** |

\*For field sprayer application, buffer zones can be reduced with the use of drift reducing spray shields. When using a spray boom fitted with a full shield (shroud, curtain) that extends to the crop canopy, the labelled buffer zone can be reduced by 70%. When using a spray boom where individual nozzles are fitted with cone-shaped shields that are no more than 30 cm above the crop canopy, the labelled buffer zone can be reduced by 30%.

When a tank mixture is used, consult the labels of the tank-mix partners and observe the largest (most restrictive) buffer zone of the products involved in the tank mixture.

## ENVIRONMENTAL HAZARDS

Toxic to small mammals, birds, aquatic organisms and non-target terrestrial plants.

Observe buffer zones specified under DIRECTIONS FOR USE.

This product will harm other broadleaved plants in the vicinity of the treatment area. If applying this product using a handheld sprayer, do not directly spray or allow the spray to drift onto ornamentals or gardens.

Do not spray exposed roots of trees and ornamentals.

## Leaching

The use of this chemical may result in contamination of groundwater particularly in areas where soils are permeable (e.g. sandy soil) and/or the depth to the water table is shallow.

## Runoff

To reduce runoff from treated areas into aquatic habitats avoid application to areas with moderate to steep slope, compacted soil, or clay.

Avoid application of this product when heavy rain is forecast.

Contamination of aquatic areas as a result of runoff may be reduced by including a strip of untreated vegetation between the treated area and the edge of the water body.

To prevent runoff avoid spraying on driveways, sidewalks or other hard surfaces. Do not irrigate within 24 hours after application.

## FIRST AID

**IF SWALLOWED:** Call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

**IF ON SKIN/CLOTHING:** Take off contaminated CLOTHING. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice.



**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 centre or doctor for treatment advice.

**GENERAL:** Seek medical attention immediately if irritation persists or is severe. Take the container label or product name and Pest Control Product Registration Number with you when seeking medical attention.

**TOXICOLOGICAL INFORMATION:** 2,4-D may cause severe irritation to the eyes. Overexposure to 2,4-D may cause coughing, burning, dizziness or temporary loss of muscle coordination. Other possible effects of overexposure include fatigue, muscle weakness or nausea. Treat symptomatically.

**STORAGE:** Store container tightly closed and away from seeds, feeds, fertilizer, plants and foodstuffs. Protect from freezing. Product exposed to subfreezing temperatures should be warmed to 5°C and mixed thoroughly before using. Insecticides and fungicides should be segregated from herbicides so as to prevent the possibility of cross-contamination. **SHAKE WELL BEFORE USING.**

## **DISPOSAL**

### **For Recyclable Containers:**

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site.

Contact your local distributor/dealer or municipality for the location of the nearest collection site.

Before taking the container to the collection site:

3. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
4. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

### **For Returnable Containers:**

Do not reuse this container for any purpose. For disposal, this empty container may be returned to the point of purchase (distributor/dealer).

### **For Returnable-Refillable Containers:**

For disposal, this container may be returned to the point of purchase (distributor/dealer). It must be refilled by the distributor/dealer with the same product. Do not reuse this container for any other purpose.

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

**NOTICE TO USER:** This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

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