

PMRA Approved Label – M.A.  
2021-6063 2021-12-23

\*Container label\*

GROUP	4	HERBICIDE
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# MPOWER<sup>®</sup> 2,4-D ESTER 700 HERBICIDE

COMMERCIAL (AGRICULTURAL)

Emulsifiable Concentrate

**ACTIVE INGREDIENT:** 2,4-D, Present as 2-ethylhexyl ester: 660 g a.e./L

**REGISTRATION NO:** 30460 PEST CONTROL PRODUCTS ACT

**DANGER**



**POISON**

**READ THE LABEL AND THE BOOKLET BEFORE USING.**

**KEEP OUT OF THE REACH OF CHILDREN**

**POTENTIAL SKIN SENSITIZER**

**WARNING SKIN IRRITANT**

**Net Contents:** 4-1050 Litres

**For Hazardous Materials [or Dangerous Goods] Incident Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC 1-800-424-9300 / +1 703-527-3887**

**NewAgco, Inc.**  
320 22<sup>nd</sup> Street East  
Saskatoon (Sask.) S7K 0H1 Canada  
1-844-269-3276

Distributed by:  
**AgraCity Crop & Nutrition Ltd.**  
320 – 22<sup>nd</sup> Street East  
Saskatoon (Sask.) S7K 0H1 Canada  
1-844-269-3276

MPOWER<sup>®</sup> is a trademark of AgraCity Crop & Nutrition Ltd. or its affiliates.

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**Detach Label at perforation. This portion must remain attached to the container.**

**PRECAUTIONS: Handling precautions: KEEP OUT OF REACH OF CHILDREN.**

Avoid contact with eyes, skin and clothing. Avoid inhaling vapours or mist. Fatal or poisonous if swallowed. Potential skin sensitizer. Causes skin irritation. DO NOT get on skin.

**Protective Clothing and Equipment: Handling the concentrate (mixing and loading):** wear coveralls over a long-sleeved shirt, long pants, coveralls, chemical resistant gloves, socks and shoes. Rinse gloves before removal. When handling more than 265Kg a.e (402L) 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, coveralls, chemical resistant gloves, socks and shoes. Rinse gloves before removal. Gloves are not required during application when applicator is in an enclosed tractor or an enclosed airplane cockpit.

**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 clothing and 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.

**GENERAL PRECAUTIONS:** When tank-mixing, observe the most stringent precautionary measures for handling and mixing stated on both product labels. Handle with care and mix only in a closed container. Use only in a well ventilated area. Keep in original container during storage. Do not re-use container unless otherwise specified. Store the container tightly closed away from seeds, fertilizers, plants and foodstuffs. May be stored at any temperature. SHAKE WELL BEFORE USING. Clean spray equipment thoroughly after use.

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).

**RE-ENTRY:** Do not enter treated areas within 12-hours after application.

**ENVIRONMENTAL PRECAUTIONS:**

This product contains a petroleum distillate, which is moderately to highly toxic to aquatic organisms. 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.

**Run-off**

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 run-off, avoid spraying on driveways, sidewalks or other hard surfaces. Do not irrigate within 24 hours after application.

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**FIRST AID:** In case of poisoning, call a physician or poison control centre IMMEDIATELY.

**IF ON SKIN OR 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.

**IF SWALLOWED:**

Call a poison control centre or doctor IMMEDIATELY for treatment advice. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

**IF INHALED:**

Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice. Take the container, label or product name and Pest Control Product registration number with you when seeking medical attention.

**TOXICOLOGICAL INFORMATION:** No specific antidote. Treatment of any systemic intoxication should be primarily symptomatic and supportive. Contains petroleum distillates. Do not induce vomiting. Vomiting may cause aspiration pneumonia. This product may cause mild 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.

**RINSING AND DISPOSAL INFORMATION:**

**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.

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\*Booklet label\*

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### **SECTION 1 - FIRST AID**

In case of poisoning, call a physician or poison control centre IMMEDIATELY.

#### **IF ON SKIN OR 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.

#### **IF SWALLOWED,**

Call a poison control centre or doctor IMMEDIATELY for treatment advice. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

#### **IF INHALED:**

Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

### **SECTION 2 - TOXICOLOGICAL INFORMATION**

No specific antidote. Treatment of any systemic intoxication should be primarily symptomatic and supportive. Contains petroleum distillates. Do not induce vomiting. Vomiting may cause aspiration pneumonia. This product may cause mild irritation to the eyes. Overexposure to 2,4-D may cause coughing, burning, dizziness or temporary loss of muscle co-ordination. Other possible effects of overexposure include fatigue, muscle weakness or nausea.

### **SECTION 3 - RINSING AND DISPOSAL INFORMATION**

**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.
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**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 cleanup 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.

## **SECTION 4- PRECAUTIONS**

### **HANDLING PRECAUTIONS:**

KEEP OUT OF REACH OF CHILDREN. Avoid contact with eyes, skin and clothing. Avoid inhaling vapours or mist. Fatal or poisonous if swallowed. Potential skin sensitizer. Causes skin irritation. DO NOT get on skin.

### **Protective Clothing and Equipment: Handling the concentrate (mixing and loading):**

wear coveralls over a long-sleeved shirt, long pants, coveralls, chemical resistant gloves, socks and shoes. Rinse gloves before removal. When handling more than 265 Kg a.e (402L) 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, coveralls, chemical resistant gloves, socks and shoes. Rinse gloves before removal. Gloves are not required during application when applicator is in an enclosed tractor or an enclosed airplane **cockpit**.

### **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 clothing and 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.

### **GENERAL PRECAUTIONS:**

When tank-mixing, observe the most stringent precautionary measures for handling and mixing stated on both product labels. Handle with care and mix only in a closed container. Use only in a well ventilated area. Keep in original container during storage. Do not re-use container unless otherwise specified.

Store the container tightly closed away from seeds, fertilizers, plants and foodstuffs. May be stored at any temperature. SHAKE WELL BEFORE USING. Clean spray equipment thoroughly after use.

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).

### **RE-ENTRY: Do not enter treated area within 12 hours after application**

### **ENVIRONMENTAL HAZARDS:**

This product contains a petroleum distillate, which is moderately to highly toxic to aquatic organisms. 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.

### **Run-off**

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 run-off, avoid spraying on driveways, sidewalks or other hard surfaces. Do not irrigate within 24 hours after application.

**SECTION 5 - MIXING AND APPLICATION**

1. Fill tank 1/2 full with water. Start agitation.
2. Add **MPOWER 2,4-D ESTER 700 HERBICIDE**.
3. When tank-mixes are used, consult the tank-mix product label for full mixing instructions.
4. Complete filling of tank.
5. Use 50-200 litres of water per hectare for ground application unless otherwise specified or on tank-mix product labels.
6. Do not exceed 275 kPa pressure for ground application.
7. **TRANSFER SYSTEM: 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.

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.

**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:**

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.

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. No human flaggers are permitted. 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. Do not apply to any body of water. Avoid drifting of spray onto any body of water or other non-target areas. Specified buffer zones should be observed.

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 during periods of dead calm or when wind velocity and direction pose a risk of spray drift. Do not spray when the wind is blowing towards a nearby sensitive crop, garden, terrestrial habitat (such as shelterbelt) or aquatic habitat.



**Operator Precautions:**

Do not allow the pilot to mix chemicals to be loaded onto the aircraft. Loading of pre-mixed 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 a long sleeved shirt, long pants, chemical resistant gloves, and goggles or face shield during mixing/loading, cleanup 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.

For application to rights-of-way, buffer zones for protection of sensitive terrestrial habitats are not required; however, the best available application strategies that minimize off-site drift, including meteorological conditions (e.g. wind direction, low wind speed) and spray equipment (e.g. coarse droplet sizes, minimizing height above canopy), should be used. Applicators must, however, observe the specified buffer zones for protection of sensitive aquatic habitats. For the use of the herbicide in site preparation and conifer release in forestry, terrestrial buffer zones are not required.

**Buffer Zones to Protect Sensitive Aquatic and Terrestrial Habitat**

Use of the following spray methods or equipment DO NOT require a buffer zone: handheld 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.

**BEFORE AERIAL APPLICATION TO FORESTS consult the most recent**

provincially approved topographic maps of the area to be treated (1:50 000) or more up to date information (e.g. GPS systems) to identify sensitive aquatic habitats.

Sensitive aquatic habitats include:

- (a) All running and standing water bodies, including impoundments, beaver ponds and bog ponds, that appear on the map or GPS system;
- (b) Running and standing water bodies that do not appear on the map or GPS system, but are visible from the air.

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The buffer zones specified in the table 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.

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 *	Turf Uses-Sod Farms, Golf Courses (roughs and fairways only)		1	0	1	0	1	
	Field crops**		1	1	1	1	1	
	Fallow land and crop stubble, pastures, rangeland, non-crop / non-grazed land (including roadsides, rights-of-way***, and brush control)		1	1	1	1	2	
Aerial	Field Crops **		Fixed Wing	10	0	1	0	45
			Rotary Wing	10	0	1	0	40
	Fallow land and crop stubble, pastures, rangeland		Fixed Wing	15	0	1	0	60
			Rotary Wing	15	0	1	0	50
	Non- cropland (including rights-of-way***, and brush control)	3.4 L/ha (2.24kg a.e./ ha)	Fixed Wing	70	0	1	0	150
			Rotary Wing	35	0	1	0	80
		6.8 L/ha (4.48kg a.e./ ha)	Fixed Wing	125	1	15	1	225
			Rotary Wing	50	1	5	1	100
	Forestry (Conifer release and forest site preparation)	3.6 L/ha (2.4kg a.e./ ha)	Fixed Wing	175	0	1	0	NR
			Rotary Wing	95	0	1	0	NR
		4.7 L/ha (3.1kg a.e./ ha)	Fixed Wing	225	1	1	0	NR
			Rotary Wing	125	1	1	0	NR
6.8 L/ha (4.48kga.e./ ha)	Fixed Wing	350	1	20	1	NR		
	Rotary Wing	175	1	10	1	NR		

\* 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%.

\*\* Field crops include: cereal grains (spring wheat, barley, rye, winter wheat, fall rye), field corn, and grass crops for forage and seed production.

\*\*\* For application to rights-of-way, buffer zones for protection of sensitive terrestrial habitats are not required.

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.

**DIRECTIONS FOR USE:**

**SECTION 6 - SPRING WHEAT, BARLEY, RYE**

**Treatment Stage:**

Ground or aerial application. Treat from the 4<sup>th</sup> leaf expanded stage to the early flag leaf (shot blade) stage. (Do not treat crop underseeded to legumes.)

**SECTION 7 - WINTER WHEAT, FALL RYE**

**Treatment Stage:** Ground or aerial application. Treat in the spring from full tillering until the early flag leaf (shot blade) stage. Do not apply to seedling winter cereals in the fall.

**SECTION 8 -FIELD CORN**

**Treatment Stage:**

Ground application only. As an overall spray, before the corn is 15 cm tall (leaf extended) and/or before the 6-leaf stage. Application as an overall spray at later stages will damage the corn. For later applications (corn 15-75 cm, leaf extended), use a shielded spray or a directed spray with drop pipes. Keep spray off corn foliage. Do not apply within 2 weeks of silking and tasselling. Avoid cultivation for weeks following spraying. Use at least 100L/ha water. Do not add oil or surfactant.

**SECTION 9 - WEEDS CONTROLLED AND RATES OF APPLICATION**

**Apply in warm weather when the crop and weeds are growing well and the weeds are at a susceptible stage. Avoid application during drought conditions or during exceptionally hot weather**

**Susceptible Weeds:**

Annual sow-thistle, Bluebur (up to 4 leaf stage), Burdock (before the 4-leaf stage), Cocklebur, Common Ragweed, Daisy fleabane, False flax, False ragweed, Flixweed, Goafs-beard, Giant ragweed, Kochia, Lamb's-quarters, Mustards (except Dog and Tansy), Narrow-leaved hawk's-beard (susceptible in the fall and at 1-2 leaf stage in the spring), Plantain, Prickly lettuce, Redroot pigweed, Russian pigweed, Russian thistle, Shepherd's-purse, Stinging nettle, Stinkweed, Sweet clover (seedling), Thyme-leaved spurge, Volunteer canola, Wild radish, Wild(prairie)sunflower.

**Optimum Stage of Weed Growth:**

2 to 4 leaf, growing actively\*.

**Rates to Use on Susceptible Weeds:**

Small seedlings, good growing conditions:	500 mL/ha
Weeds in bud, dry/cold conditions, or heavy infestation:	800 mL/ha

\* Weed control may be reduced when applied beyond optimum stage of weed growth.

**Harder to Control Weeds:**

Curled Dock (up to 4 leaf), Dog mustard, Field peppergrass, Flixweed(spring prior to bolting), Groundsel, Hairy galinsoga, Hawkweed, Healall, Knotweed(up to 4 leaf), Narrow-leaved hawk's-beard(spring prior to bolting), Oakleaved goosefoot, Pineappleweed, Prostrate pigweed, Purslane, Sheep sorrel, Tansy mustard, Tumble pigweed, Velvet leaf.

**Optimum Stage of Weed Growth:**

2-4 leaf, growing actively\*.

**Rates to Use on Harder to Control Weeds:**

Small seedlings, good growing conditions:	900 mL/ha
Weeds in bud, dry/ cold conditions, or heavy infestations:	1.3 L/ha

**NOTE:** These high rates may result in deformities in the crop, but improved weed control should result in higher yields.

\* Weed control may be reduced when applied beyond optimum stage of weed growth.

**TOP GROWTH CONTROL ONLY:**

Biennial wormwood, Blue lettuce, Bull thistle, Burdock, Buttercup, Canada thistle, Chicory, Curled dock, Dandelion, Field bindweed, Field chickweed\*, Field horsetail\*, Gumweed, Hedge bindweed, Hemp-nettle\*(treated before the 4-leaf stage), Hoary cress, Lady's-thumb\*, Leafy spurge, Mouse-eared chickweed\*, Perennial sow-thistle, Russian knapweed, Scentless mayweed, Smartweed\*, Tartary buckwheat, Teasel, Volunteer sunflower, Wild buckwheat\*, Yellow rocket (controlled with applications before the 4-leaf stage)

\* Use highest rate listed below for suppression only.

**Rates of Application Top Growth Control Only:**

Small seedlings, good growing conditions: 1.1 L/ha  
Large weeds, dry/cold conditions, or heavy infestations: 1.3 L/ha

**NOTE:** For use in-crop. These rates may result in significant injury on some crops and should only be used where some crop injury can be tolerated.

**Maximum Safe Rates of Application For Crops:**

Spring wheat, barley, rye: 1.1 L/ha  
Winter wheat, fall rye: 800 mL/ha  
Field corn: 800 mL/ha

**Do not exceed the maximum rates in the weed control tables in any crop. Do not apply more than once per year**

**SECTION 10 – ESTABLISHED PASTURES, RANGELAND (WITHOUT LEGUMES)**

**Treatment Stage:**

Ground or aerial application. Apply at a time of rapid growth, usually May, June and/or September. Apply after pasture has been grazed or cut and weed growth has resumed. A second treatment may be required. Do not apply in freshly seeded grasses and pastures until well established. Under conditions of good growth and adequate soil moisture, sprays can be applied up to 2 weeks before normal frost time.

**Weeds Controlled:**

As listed in Section 4

**Rates to Use:**

Up to 3.4 L/ha in 100-300 litres of water per hectare.  
Use the higher rate for perennial weeds.

**Do not apply more than twice per year**

**SECTION 11 - GRASS CROPS FOR FORAGE AND SEED PRODUCTION (ESTABLISHED STANDS ONLY)**

**Treatment Stage:**

Ground or aerial application only. Apply in the spring up to the shot-blade stage of the grasses or in the fall after harvest to control annual and biennial weed species.

**Weeds Controlled:**

As listed in Section 4

**Rates to Use:**

0.8- 1.6 L/ha in 100-300 L/ha of water.

**Do not apply more than twice per year**

**NOTES:** Do not exceed 800 mL/ha on seed crops. Do not apply during pollen development or flowering stage of grass seed crops as seed yields could be reduced. Late germinating weeds, such as red bartsias, may be controlled at .8 L/ha rate after the forage crop has been removed if weeds are actively growing.

**SECTION 12 - PRE-HARVEST/GRAZING INTERVALS (cereal crops, field corn, forages, pastures and rangeland)**

1. Do not permit lactating dairy animals to graze fields within 7 days after application.
2. Do not harvest forage or cut hay within 30 days after application.
3. Withdraw meat animals from treated fields at least 3 days before slaughter.

**SECTION 13 –TANK MIXES**

Use tank mixes only when they are recommended for use. Read and follow the directions, aerial application directions, warnings, precautions, and grazing limitations on both products used in tank-mix. See appropriate tank-mix product labels for full details of use patterns, rates and timings of applications and limits on application.

**SECTION 14 - TURF USES - SOD FARMS, GOLF COURSES (roughs and fairways only).**

**Use adequate buffer zones to protect sensitive non-target vegetation.**

**Treatment Stage:**

DO NOT apply by air. Apply at a time of rapid growth, usually May, June, and/or September. Application during drought or when weeds are under stress such as heat or cold will result in poorer control.

**Weeds Controlled:**

See Section 4 for a complete listing.

**Rates of application:**

Up to 1.9 litres /ha at each application, maximum of 3.8 litres per year.  
Apply in 100 to 300 litres of water per hectare.

**Maximum Applications:**

DO NOT apply more than two broadcast applications per season.  
This does not include spot treatments.

**Application notes:**

Do not apply to bentgrass or newly seeded lawns/turf as injury may occur. DO NOT water or apply when rainfall is expected within 24 hours. Avoid application if weather is hot (above 27 deg. C) and/or dry. Avoid mowing within 4 days before and several days after application. This product is only effective when applied to the leaves of actively growing weeds. The product will not prevent new weeds - apply only when weeds are present. DO NOT apply to the exposed roots of trees and ornamentals. If weeds do not warrant a broadcast application (e.g. entire lawn), consider spot treatments that target only weedy areas. Do not allow people (other than the applicator) or pets onto the treated area until the spray has thoroughly dried. Use caution when applying around sensitive plants.

## **SECTION 15 - STUBBLE FIELDS, ROADSIDES, UNCROPPED LAND AND AIRPORTS.**

### **Treatment Stage:**

Ground or aerial application for stubble fields and uncropped land. DO NOT APPLY BY AIR TO ROADSIDES OR AIRPORTS. Treat established pastures only in spring (May and early June) or early September.

### **Susceptible Weeds:**

As listed in Section 4.

### **Rates of Use on Susceptible Weeds:**

Young Weeds: 1.50L/ha  
Older Weeds: 2.35 L/ha

**Harder to Control Weeds:** As listed in Section 4.

Rate to Use on Harder to Control Weeds: 2.35 L/ha

Do not apply more than twice per year. For hand held equipment, do not apply more than 2700g A.E (4.1L) per person per day

**NOTES:** Spray thoroughly using 100 to 200 litres of water per hectare. Use the higher rate for perennial weeds, a second treatment may be required. Cultivating grain stubble and spraying after regrowth may aid in control. Under conditions of good growth and adequate soil moisture, sprays can be applied up to 2 weeks before normal frost time.

## **SECTION 16 - WEEDS & BRUSH ON NON-CROP / NON-GRAZED LAND**

### **Susceptible Species:**

Consult provincial spray calendars for a list of susceptible species.

### **Rates to Use:**

Ground or aerial application: 3.25 - 6.80 L/ha

Use the lower rate for species that are more susceptible such as chokecherry, western snowberry, and willow.

### **Rate of Carrier:**

Use sufficient water to wet foliage thoroughly, 800 - 1600 L/ha for ground application. Depending on the density of the brush, 1000 to 3000 L of spray solution may be required per hectare if applying by ground. For aerial applications use 55 to 165 litres of spray solution per hectare. For oil/water carrier, use 15 litres of oil mixed in 40 litres of water with continuous agitation.

### **Maximum Rates:**

Annual and Perennial weed control: 3.4 L/ha

Do not apply more than twice per year

For hand- held equipment, do not apply more than 4.1L per person per day.

Woody Plant Control 6.80L/ha

Do not apply more than twice per year.

For hand-held equipment, do not apply more than 7.6L per person per day without a respirator or 12.1L per person per day with a respirator

Notes: 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 re-

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growth 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.

## **SECTION 17 - BASAL BARK AND STUMP TREATMENT - BRUSH/TREES**

### **Susceptible Species:**

Hard to kill woody brush and young tree species.

### **Rates to Use:**

2.5 Litres in 100 Litres of diesel fuel. Spray to run-off. For hand-held equipment, do not apply more than 4.1L per person per day

### **Notes:**

Apply to the basal stems of standing brush and young trees anytime of the year prior to formation of corky bark. To prevent re-growth of stumps, treat immediately after cutting by spraying or painting on exposed bark, roots and cut surfaces. Thorough drenching is essential.

**SECTION 18 - RESTRICTED USES**

**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.

**RESTRICTED USE: FOREST AND WOODLAND MANAGEMENT**

**NATURE OF RESTRICTION:**

This product is to be used only in the manner authorized. Consult local pesticide regulatory authorities about use permits that may be required.

**CONIFER RELEASE - AERIAL APPLICATION:**

To control hardwood species in stands of fir, hemlock, spruce and pine regeneration, apply **MPOWER 2,4-D ESTER 700 HERBICIDE** at 3.63 to 4.7 L/ha in 30 to 80 L/ha of total spray mixture. Use water or an "oil-water"\* mixture. Never allow any water or mixture containing water to get into the **MPOWER 2,4-D ESTER 700 HERBICIDE** or the oil spray premix. Note: **MPOWER 2,4-D ESTER 700 HERBICIDE** in water or oil-water sprays form an emulsion, not a solution, and separation may take place unless sprays are agitated continuously until used up. Mechanical agitation is recommended.

To prevent conifer damage, delay spraying until all new conifer growth has hardened off, when the terminal buds feel sharp to touch. Caution should be taken to ensure that the conifer is not in a second phase of active or "lammas" growth in late summer. Hardwoods should not have commenced fall coloration. Control of heavy suckering species such as maple, trembling aspen and balsam poplar may only be partial. Raspberries will not be controlled and may, if present, proliferate following removal of the hardwood overstory.

**FOREST SITE PREPARATION - AERIAL APPLICATION:**

To control mixed hardwood species on sites to be planted to conifers, use 4.7 to 6.78 litres of **MPOWER 2,4-D ESTER 700 HERBICIDE** in 30 to 100 litres of total spray mixture per hectare. Apply as a uniform spray when the foliage is well developed and the brush is actively growing. Under conditions of good growth and high soil moisture, sprays can be used 2 to 3 weeks before normal frost time. For best results use a 10% oil-water\* mixture. NOTE: When preparing sites for planting do not plant conifers before spraying as the conifers present at the time of spraying may be injured or killed. To reduce potential drift hazard on noncrop locations, a drift control agent may be added. Follow all directions on the drift control agent label for the correct mixing sequence. Do not apply more than twice per year

- \* To prepare the "oil-water" mixture add the **MPOWER 2,4-D ESTER 700 HERBICIDE** to the oil in a separate container. With vigorous agitation 1 litre of **MPOWER 2,4-D ESTER 700 HERBICIDE** will emulsify up to 10 litres of oil in 100 litres of spray mixture. Start running the water into the empty spray tank, then slowly add the premix with continuous agitation. All the premix should be in the tank by the time 1/3 of the water is in. If the premix is put in the tank without any water, the first water added may form a thick "invert" (water in oil) emulsion, which will be hard to break.

**USE PRECAUTIONS:**

With aircraft, uniform coverage can be obtained and drift minimized by using 235 kPa spray pressure or less at the nozzle, using nozzles directed straight back, using a spray boom no larger than 3/4 the wing span of the aircraft and by spraying when wind velocity is less than 8 km/h.



**SECTION 19 - RESISTANCE MANAGEMENT RECOMMENDATIONS:**

For resistance management, **MPOWER 2,4-D ESTER 700 HERBICIDE** is a Group 4 herbicide. Any weed population may contain or develop plants naturally resistant to **MPOWER 2,4-D ESTER 700 HERBICIDE** 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 **MPOWER 2,4-D ESTER 700 HERBICIDE** 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 or to report suspected resistance, contact AgraCity Crop & Nutrition. at 1-844-269-3276

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