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SHADOW[®] RTM[™]

EMULSIFIABLE CONCENTRATE
POST-EMERGENCE HERBICIDE

USE WITH AMIGO[®] ADJUVANT

GROUP **1** HERBICIDE

CONTAINS CLETHODIM

POST-EMERGENCE HERBICIDE FOR CONTROL OF GRASSES IN SEEDLING ALFALFA, DRIED SHELLLED PEA AND BEAN (EXCEPT SOYBEAN), Highbush BLUEBERRY, CANOLA, CORIANDER, DILL, CARAWAY, FENUGREEK, CRANBERRY, FLAX (including low linolenic acid varieties), ORIENTAL (BROWN) MUSTARD (condiment and oilseed types), BRASSICA CARINATA, YELLOW MUSTARD, DRY BULB ONIONS AND GARLIC, POTATOES, PRAIRIE CARNATION, SAFFLOWER, SOYBEANS, SPINACH, and SUNFLOWERS, RED GARDEN (TABLE) BEET, PARSNIP, CARROT AND, RADISH, CHERRY (tart and sweet), CERTAIN HERBS, SPICES and HOPS.

AGRICULTURAL

ACTIVE INGREDIENT: CLETHODIM 240 g/L

REGISTRATION NO. 29277 _____ PEST CONTROL PRODUCTS ACT

WARNING: EYE AND SKIN IRRITANT

**KEEP OUT OF REACH OF CHILDREN
READ THE LABEL AND BOOKLET BEFORE USING**

NET CONTENTS: (250 mL - 9 LITRES)

IN CASE OF EMERGENCY DUE TO A MAJOR SPILL, FIRE OR POISONING INVOLVING THIS PRODUCT CALL DAY OR NIGHT,
1-800-561-8273

Loveland Products Canada Inc.
PO Box 5234 | 64137 Hwy 543 E
High River, AB T1V 1M4
1-800-328-4678

PRECAUTIONS:

KEEP OUT OF REACH OF CHILDREN. CAUSES EYE AND SKIN IRRITATION.

Avoid contact with skin, eyes and clothing. Wash concentrate from skin or eyes immediately. Do not inhale fumes. Avoid breathing vapours or spray mist. After use, wash hands and other exposed skin. When using, do not eat, drink or smoke. Remove and launder contaminated clothing separately from household laundry before reuse. Store the container tightly closed and away from seeds, feeds, fertilizer, plants and foodstuffs. Observe appropriate provincial buffer zones around bodies of water and wetland areas.. When handling the concentrate, mixing, loading or during cleanup and repair, wear goggles or face shield, rubber apron, chemical-resistant gloves, rubber boots, long-sleeved shirt and long pants. Wear long-sleeved shirt and long pants during application. In addition, for hand-held application equipment, including backpack sprayer, wear chemical-resistant gloves during application.

Apply only when the potential for drift to areas of human habitation or areas of human activity such as houses, cottages, schools and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings

During application, wear long sleeved shirt, long legged pants and chemical-resistant gloves. Chemical resistant gloves are not required to be worn during groundboom or aerial application.

Application is limited to agricultural crops only when there is low risk to drift to areas of human habitation or activity such as houses, cottages, schools and recreation areas, taking into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

ENVIRONMENTAL HAZARDS:

TOXIC to aquatic organisms and non-target terrestrial plants.

Observe buffer zones specified under DIRECTIONS FOR USE.

Toxic to certain beneficial insects. Minimize spray drift to reduce harmful effects on beneficial insects in habitats next to the application site such as hedgerows and woodland.

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

Avoid application when heavy rain is forecast.

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

This product contains aromatic petroleum distillates that are toxic to aquatic organisms.

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

As this product is not registered for the control of pests in aquatic systems, DO NOT use to control aquatic pests.

DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

FIRST AID:

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 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 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.

TOXICOLOGICAL INFORMATION: Treat symptomatically. This product contains petroleum distillates. Vomiting may cause aspiration pneumonia. Danger from lung aspiration of petroleum based solvents must be weighed against toxicity when considering emptying stomach.

STORAGE AND DISPOSAL

STORAGE: To prevent contamination, store this product away from food or feed.

DISPOSAL:

RECYCLABLE CONTAINER DISPOSAL: 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.

DISPOSAL OF UNUSED, UNWANTED PRODUCT: 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.

SHADOW RTM® is a trademark of Arysta LifeScience North America, LLC, AMIGO® is a registered trademark of Arysta LifeScience North America, LLC.

SHADOW[®] RTM[™]

USE WITH AMIGO[®] ADJUVANT

**EMULSIFIABLE CONCENTRATE
POST-EMERGENCE HERBICIDE**

GROUP	1	HERBICIDE
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CONTAINS CLETHODIM

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ACTIVE INGREDIENT: CLETHODIM 240 g/L

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Loveland Products Canada Inc.
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SHADOW[®] RTM[™] is a trademark of Arysta LifeScience North America, LLC, and AMIGO[®] is a registered trademark of Arysta LifeScience North America, LLC.

GENERAL INFORMATION:

SHADOW® RTM™ is a selective post-emergence herbicide for control of a broad range of grasses in seedling alfalfa, bean (*Lupinus* spp.) (includes grain lupin, sweet lupin, white lupin and white sweet lupin); bean (*Phaseolus* spp.) (includes field bean, kidney bean, lima bean (dry), navy bean, pinto bean, tepary bean); bean (*Vigna* spp.) (includes adzuki bean, blackeyed pea, catjang, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean); broad bean (fava bean) (*vicia faba*); chickpea (garbanzo bean) (*Cicer arietinum*); guar (*Cyamopsis tetragonoloba*); lablab bean (hyacinth bean) (*Lablab purpureus*); lentil (*Lens esculenta*); pea (*Pisum* spp.) (includes field pea); pigeon pea (*Cajanus cajan*) highbush blueberry, canola, coriander, dill, caraway, fenugreek, cranberry, flax (including low linolenic acid varieties), oriental (brown) mustard (condiment and oilseed types), *Brassica carinata*, safflower, yellow mustard, dry bulb onions and garlic, potatoes, Prairie Carnation, soybeans, spinach, sunflowers, red garden (table) beet, parsnip, carrot, radish, cherry (tart and sweet), certain herbs, spices and hops.

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide is to be used only with the adjuvant AMIGO®.

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide is a systemic herbicide which is translocated from the treated foliage to the growing points of the leaves, shoots and roots. Uptake into the plant is primarily through its leaves. Thorough coverage of the foliage is important for consistent grass control. Susceptible grasses that are actively growing will undergo a burn-back and colour change after treatment. Leaf foliage will first change from green to yellowish, then purplish and finally brown colour. The time required for complete control is normally 7 to 21 days following treatment, depending on growing conditions and crop competition.

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- 1 Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
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DISPOSAL OF UNUSED, UNWANTED PRODUCT: 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.

DIRECTIONS FOR USE:

Not for use in greenhouses.

A 30-day plant-back interval should be observed for all unlabelled crops.

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide is to be used only on seedling alfalfa, bean (*Lupinus* spp.) (includes grain lupin, sweet lupin, white lupin and white sweet lupin); bean (*Phaseolus* spp.) (includes field bean, kidney bean, lima bean (dry), navy bean, pinto bean, tepary bean); bean (*Vigna* spp.) (includes adzuki bean, blackeyed pea, catjang, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean); broad bean (fava bean) (*Vicia faba*); chickpea (garbanzo bean) (*Cicer arietinum*); guar (*Cyamopsis tetragonoloba*); lablab bean (hyacinth bean) (*Lablab purpureus*); lentil (*Lens esculenta*); pea (*Pisum* spp.) (includes field pea); pigeon pea (*Cajanus cajan*) highbush blueberry, canola, coriander, dill, caraway, fenugreek, cranberry, flax (including low linolenic acid varieties), oriental (brown) mustard (condiment and oilseed types), Brassica carinata, safflower, yellow mustard, dry bulb onions and garlic, potatoes, Prairie Carnation, soybeans, spinach, sunflowers, red garden (table) beet, parsnip, carrot, radish, cherry (tart and sweet), certain herbs, spices and hops.

TIME OF APPLICATION:

Apply **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** when the annual grasses and volunteer cereals are in the 2 to 6-leaf stage as specified under Application Rates of **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide**. Most effective control is achieved when application is made prior to tillering when annual grasses are small and actively growing.

For suppression or control of quackgrass, apply **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** when the quackgrass is in the 2 to 6-leaf stage and 6 to 15 cm in height. Most effective results are achieved when application is made at the 3 to 5-leaf stage, when the canopy is uniform and actively growing.

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide will be less effective when plants are stressed by lack of moisture, excessive moisture, low-temperature and/or very low relative humidity. Regrowth by tillering may occur if application is made under any of the above stress conditions. In wide row crops, where the canopy may be slow to close, cultivation may be necessary to control grasses that emerge after treatment.

For chickpeas, apply **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** at a maximum of one application per season before the crop reaches the 9 node stage (18 cm height maximum) and when the annual grasses and volunteer cereals are in the 2- to 6-leaf stage.

For dill and fenugreek, apply **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** post-emergence, when dill or fenugreek is in the 3 to 5 leaf stage at a maximum of one application per season.

For Prairie Carnation, apply **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide**, when Prairie Carnation is in the 2- to 5-leaf stage. A maximum of one application may be made per year. For safflower, apply **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide**, when safflower is in the 6 to 8 leaf stage at a maximum of one application per season.

Cranberry is tolerant to **SHADOW RTM** at all stages of growth, however, do not apply

SHADOW RTM between the hook stage and full fruit set.

For dry bulb onions and garlic, apply SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide, when crops are in the 1- to 4-leaf stage.

Apply SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide only to established sweet and tart cherry trees. The pre-harvest interval outlined in the Crop Recommendations table must be followed to avoid excessive crop residues.

All other labelled crops are tolerant to SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide at all stages of growth. However, the pre-harvest interval outlined in the Crop Recommendations table must be followed to avoid excessive crop residues.

APPLICATION RATES OF SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide:

Rates of use are given below to control various grass species. Refer to crop section for the maximum use rate on each crop.

Grass Species	Leaf Stage	Application Rate of SHADOW RTM®	Application Rate of AMIGO® Adjuvant
*Foxtail (green, yellow)	2 to 4	0.125 L/ha	0.5% v/v
Wild oats			
Volunteer cereals (wheat, barley, oats)			
Barnyard Grass	2 to 6	0.125 L/ha	0.5% v/v
Witchgrass			
Fall panicum			
Proso millet			
Volunteer Corn			
Volunteer canary grass			
Wild Oats	2 to 6	0.19 L/ha	0.5% v/v
Volunteer cereals (wheat, barley, oats)			
Foxtail (green, yellow)			
Persian darnel			
Crabgrass (smooth and large)			
Proso millet			
Witchgrass Fall			
panicum			
Barnyard grass			
Volunteer corn			
Volunteer canary grass			
Quackgrass suppression			
Quackgrass control**	2 to 6	0.38 L/ha	1.0% v/v

* SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide applied at

0.125 L/ha for the control of weeds listed in this section of the table should only be applied under the following conditions:

- Good crop stand
- Early application (as in above table, prior to tillering)
- Do not tank-mix with other pesticides
- Do not apply to volunteer winter cereals
- Light to moderate weed infestation
- Adequate moisture and fertility
- Absence of stress, good growing conditions

If any one of the above conditions are not present at the time of application, use 0.19 L/ha rate of **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide**.

** For adequate control of quackgrass, use a minimum spray volume of 100L/ha.

CROP RECOMMENDATIONS:

Crops	Maximum Application Rate of SHADOW RTM	Application Method⁶	Pre-Harvest Interval
Seedling Alfalfa	0.38 L/ha	Ground application only	30 days
Pigeon Pea^{1,2}	0.19 L/ha	Ground and aerial application	75 days

<p>Bean (<i>Lupinus</i> spp.) (includes grain lupin, sweet lupin, white lupin and white sweet lupin); bean (<i>Phaseolus</i> spp.) (includes field bean, kidney bean, lima bean (dry), navy bean, pinto bean, tepary bean); bean (<i>Vigna</i> spp.) (includes adzuki bean, blackeyed pea, catjang, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean); broad bean (fava bean) (<i>Vicia faba</i>); chickpea (garbanzo bean) (<i>Cicer arietinum</i>); guar (<i>Cyamopsis tetragonoloba</i>); lablab bean (hyacinth bean) (<i>Lablab purpureus</i>)^{1,2}</p>	<p>0.19 L/ha</p>	<p>Ground and aerial application</p>	<p>60 days</p>
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<p>Angelica; balm (lemon balm); basil; borage; burnet; chamomile; catnip; chervil; clary; costmary; culantro (leaf); horehound; hyssop; lavender; lovage; marigold; marjoram (includes sweet or annual marjoram, wild marjoram or oregano and pot marjoram); nasturtium; parsley (dried); pennyroyal; rosemary; rue; sage; summer and winter savory; sweet bay (bay leaf); tansy; tarragon; thyme; wintergreen; woodruff; and wormwood ^{1,2,4,7}</p>	0.19 L/ha	Ground application only	30 days
<p>Anise (anise seed); caraway (black); celery seed; culantro (seed); cumin; fennel [common and Florence (seed)]; juniper berry; lovage (seed); mustard (seed); poppy (seed); and Saffron.</p>	0.19 L/ha	Ground application only	60 days
<p>Cherry (sweet and tart) ^{1, 7, 8} (established trees)</p>	0.38 L/ha	Ground application only	14 days
<p>Highbush Blueberry ^{1, 5, 7}</p>	0.38 L/ha	Ground application only	14 days
<p>Canola</p>	0.38 L/ha	Ground and aerial application	60 days

Carrot ^{4,7}	0.38 L/ha	Ground application only	30 days
Cranberry ^{1,2,7}	0.38 L/ha	Ground application only	30 days
Chive ^{1,7}	0.38 L/ha	Ground application only	30 days
Caraway, Coriander (cilantro) ^{1,3,7}	0.38 L/ha	Ground application only	60 days for seed 30 days for leaves
Dill ^{1,7}	0.38 L/ha	Ground application only	30 days (dillweed leaves) 40 days (dill seed)
Flax (including low linolenic acid varieties)	0.38 L/ha	Ground and aerial application	60 days
Fenugreek ^{1,3,7}	0.38 L/ha	Ground application only	30 days (leaf and seed)
Field Peas	0.38 L/ha	Ground and aerial application	75 days
Hops ^{1,4,7}	0.38 L/ha	Ground application only	21 days
Lentils	0.38 L/ha	Ground and aerial application	60 days
Oriental (Brown) Mustard (condiment and oilseed types)	0.38 L/ha	Ground and aerial application	60 days

Yellow Mustard	0.38 L/ha	Ground and aerial application	60 days
<i>Brassica carinata</i>	0.38 L/ha	Ground and aerial application	60 days
Dry Bulb Onions and Garlic ^{1,7}	0.38 L/ha	Ground application only	45 days
Parsnip ^{4,7}	0.38 L/ha	Ground application only	30 days
Potatoes	0.38 L/ha	Ground and aerial application	60 days
Prairie Carnation ^{1,3,7}	0.19 L/ha	Ground application only	N/A
Radish ^{4,7}	0.38 L/ha	Ground application only	30 days
Red garden (table) beet ^{4,7}	0.38 L/ha	Ground application only	30 days
Safflower	0.38 L/ha	Ground application only	70 days
Soybeans	0.38 L/ha	Ground and aerial application	75 days
Spinach ^{4,7}	0.19 L/ha	Ground application only	14 days
Sunflowers	0.38 L/ha	Ground and aerial application	72 days

1. Apply a maximum of one application per year.
2. NOTE: Varieties of this crop may vary in their tolerance to herbicides, including SHADOW RTM. Since not all crop varieties have been tested for tolerance to SHADOW RTM, first use of SHADOW RTM should be limited to a small area of each variety to confirm tolerance prior to adoption as a general field practice. Additionally, consult your supplier for information on the tolerance of specific varieties to SHADOW RTM.
3. Do not harvest treated Prairie Carnations for human consumption.
4. Apply a maximum of two applications per year. If repeat application is required, allow at least 14 days between first and second application.
5. Apply SHADOW RTM as a broadcast spray directed to the ground.
6. SPRAY VOLUME FOR AERIAL APPLICATION: Apply in 28 to 55 L/ha. Increase spray volumes up to 100L/ha as grass or crop foliage becomes dense.
7. Refer to section "MINOR USES" in this label for additional use instructions.
8. Do not apply SHADOW RTM directly over the top of the sweet and tart cherry trees. Direct the spray at the base of the tree where grassy weeds are growing. If SHADOW RTM is improperly applied, crop injury can occur.

TANK-MIXES:

When applied as a tank-mix combination, read and observe all label directions, including rates, restrictions, and grazing limitations for each product used in the tank-mix. Follow the more stringent label precautionary measures for mixing, loading and applying stated on both product labels.

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide AND BUCTRIL® M:

Flax (including low linolenic acid varieties): SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide may be tank-mixed with BUCTRIL M for control of certain broadleaf and grassy weeds in flax (including low linolenic acid varieties) in one spray operation. Apply in 55 to 110 litres of water per hectare at a pressure of 275 kPa. DO NOT spray this tank-mix on plants under stress. DO NOT spray during periods of hot, humid weather. Follow all precautions, limitations and timing recommendations on the BUCTRIL M label..

Time of Application: Flax (including low linolenic acid varieties) may be treated from 5 cm high to the early bud stage. For best results, apply when flax (including low linolenic acid varieties) is 5 to 10 cm high and weeds are in the seedling stage. If broadleaf weeds and grassy weeds are not in the recommended treatment stage at the same time, then separate applications should be made.

Application Rate: SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide at 0.19 to 0.38 L/ha tank-mixed with BUCTRIL M at 1.0 L/ha and the adjuvant AMIGO at 0.5% to 1.0% v/v.

Weeds Controlled: As listed for **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** used alone, plus certain seedling broadleaf weeds. Refer to the BUCTRIL M label for the broadleaf weeds controlled.

MIXING INSTRUCTIONS:

1. Thoroughly clean the sprayer by flushing the system with water containing detergent.
2. Fill clean spray tank half full with clean water. Start agitation system.
3. If tank-mixing **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** and BUCTRIL M for once-over grass and broadleaf weed control in flax (including low linolenic acid varieties), add the correct amount of BUCTRIL M. Continue to agitate.
4. Add the correct amount of **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide**. Continue to agitate.
5. Add the correct amount of adjuvant AMIGO along with the remaining amount of water necessary to fill the spray tank.
6. Continue to agitate or run the by-pass system.
7. After any break in the spraying operation, agitate thoroughly before spraying again. Check inside the tank to ensure that sprayer agitation is sufficient to re-mix the spray materials. Do not allow the mixture to sit overnight.
8. Immediately after use, thoroughly clean the sprayer by flushing the system with clean water containing detergent.

For disposal of cleaning solution, see section on DISPOSAL.

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide AND CURTAIL® M:

Flax (including low linolenic acid varieties): SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide may be tank-mixed with CURTAIL M for control of certain broadleaf and grass weeds in flax in one spray operation. Apply in a minimum of 100 L/ha spray volume at a pressure of 275 kPa.

Follow all precautions, limitations, restrictions and timing recommendations on the CURTAIL M label.

Time of Application: Flax may be treated from 5 to 15 cm in height. Apply when the grassy weeds are in the 2 to 6 leaf stage and the broadleaf weeds are actively growing. Application to Canada thistle should be made when Canada thistle is between 10 cm and up to the pre-bud stage. If broadleaf weeds and grass weeds are not in recommended treatment stage at the same time, then separate applications should be made.

Application Rate: **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** at 0.19 L/ha tank-mixed with CURTAIL M at 1.5 to 2.0 L/ha and with the adjuvant AMIGO at 0.5% v/v.

Weeds Controlled: Weed claims listed on the **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** label plus weed claims listed on Curtail M label. Refer to the CURTAIL M label for the broadleaf weeds controlled.

Grazing Interval

Do not cut treated crops for feed or graze until 60 days after application.

MIXING INSTRUCTIONS:

1. Thoroughly clean the sprayer by flushing the system with water containing detergent.
2. Fill clean spray tank half full with clean water. Start agitation system.
3. Add the required amount of CURTAIL M to the tank. Continue to agitate.
4. Add the correct amount of SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide. Continue to agitate.
5. Add the correct amount of adjuvant AMIGO along with the remaining amount of water necessary to fill the spray tank.
6. Continue to agitate or run the by-pass system.
7. After any break in the spraying operation, agitate thoroughly before spraying again. Check inside the tank to ensure that sprayer agitation is sufficient to re-mix the spray materials. Do not allow the mixture to sit overnight. In the case of tank mixtures with broadleaf herbicides, settling will occur if agitation is not continuous.
8. If an oil film starts to build up in the tank, drain it and clean tank with strong detergent solution.
9. Immediately after use, thoroughly clean the sprayer by flushing the system with clean water containing detergent.

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide AND MCPA ESTER:

Flax: SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide may be tank-mixed with MCPA ESTER for control of certain broadleaf and grassy weeds in flax in one spray operation. For ground applications, apply in a minimum of 100 L/ha spray volume at a pressure of 275 kPa. For aerial application, apply this tank-mix in a minimum of 30 L/ha spray volume at a pressure of 235 kPa.

NOTE: THIS TANK-MIX MAY NOT BE APPLIED TO LOW LINOLENIC ACID VARIETIES OF FLAX.

Time of Application: Flax may be treated from 5 cm tall to just before the bud stage. Do not apply after the early bud stage. Apply when the grassy weeds are in the 2-6 leaf stage and broadleaf weeds are in the seedling stage and actively growing. If broadleaf weeds and grassy weeds are not in the recommended treatment stage at the same time, then separate applications should be made.

Application Rate: SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide at 0.19 to 0.38 L/ha tank-mixed with MCPA ESTER and the adjuvant AMIGO at 0.5% to 1.0% v/v.

Weeds Controlled: As listed for **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** used alone, plus certain seedling broadleaf weeds. Refer to the MCPA ESTER label for the rates and broadleaf weeds controlled and specific information on flax.

MIXING INSTRUCTIONS:

1. Thoroughly clean the sprayer by flushing the system with water containing detergent.
2. Fill clean spray tank half full with clean water. Start agitation system.
3. Add the correct amount of MCPA ESTER. Continue to agitate.
4. Add the correct amount of **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide**. Continue to agitate.
5. Add the correct amount of adjuvant AMIGO along with the remaining amount of water necessary to fill the spray tank.
6. Continue to agitate or run the by-pass system.
7. After any break in the spraying operation, agitate thoroughly before spraying again. Check inside the tank to ensure that sprayer agitation is sufficient to re-mix the spray materials. Do not allow the mixture to sit overnight.
8. Immediately after use, thoroughly clean the sprayer by flushing the system with clean water containing detergent.

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide AND LONTREL® 360:

Flax (including low linolenic acid varieties): **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** may be tank-mixed with LONTREL 360 for control of certain broadleaf and grass weeds in flax in one spray operation. Apply in a minimum of 100 L/ha spray volume at a pressure of 275 kPa.

Follow all precautions, limitations and timing recommendations on the LONTREL 360 label.

Time of Application: Flax may be treated from 5 cm to 10 cm in height. Apply when the grassy weeds are in the 2 to 6 -leaf stage and the broadleaf weeds are actively growing. Application to Canada thistle should be made when Canada thistle is in the rosette to pre-bud stage of growth. If broadleaf weeds and grass weeds are not in recommended treatment stage at the same time, then separate applications should be made.

Application Rate: **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** at 0.19 L/ha tank-mixed with LONTREL 360 at 0.56 to 0.83 L/ha and with the adjuvant AMIGO at 0.5% v/v.

Weeds Controlled: Wild oats, green foxtail, volunteer barley, volunteer wheat, volunteer oats, wild buckwheat.

Canada thistle	0.56 L LONTREL 360/ha	Season-long control
	0.83 L LONTREL 360/ha	Control extended into following year.

MIXING INSTRUCTIONS: For mixing instructions, refer to **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** and LONTREL 360 tank-mix on canola.

Canola: **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** may be tank-mixed with LONTREL 360 for control of certain broadleaf and grass weeds in canola in one spray operation. Apply in a minimum of 100 L/ha spray volume at a pressure of 275 kPa. Follow all precautions, limitations and timing recommendations on the LONTREL 360 label.

Time of Application: Canola may be treated from the 2 to 6-leaf stage. Apply when the grassy weeds are in the 2 to 6-leaf stage and the broadleaf weeds are actively growing. Application to Canada thistle should be made when Canada thistle is in the rosette to pre-bud stage of growth. If broadleaf weeds and grass weeds are not in recommended treatment stage at the same time, then separate applications should be made.

Application Rate: **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** at 0.19 L/ha tank-mixed with LONTREL 360 at 0.42 to 0.83 L/ha and with the adjuvant AMIGO at 0.5% v/v.

Weeds Controlled: Wild oats, green foxtail, volunteer barley, volunteer wheat, volunteer oats.

Wild Buckwheat	0.56 L LONTREL 360/ha	Season-long control
Canada thistle	0.42 L LONTREL 360/ha	Top growth control to 6 to 8 weeks
	0.56 L LONTREL 360/ha	Season-long control
	0.83 L LONTREL 360/ha	Control into following year.

MIXING INSTRUCTIONS:

1. Thoroughly clean the sprayer by flushing the system with water containing detergent.
2. Fill clean spray tank half full with clean water. Start agitation system.
3. Add the required amount of LONTREL 360 to the tank. Continue to agitate.
4. Add the correct amount of **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide**. Continue to agitate.
5. Add the correct amount of adjuvant AMIGO along with the remaining amount of water necessary to fill the spray tank.
6. Continue to agitate or run the by-pass system.
7. After any break in the spraying operation, agitate thoroughly before spraying again. Check inside the tank to ensure that sprayer agitation is sufficient to re-mix the spray materials. Do not allow the mixture to sit overnight. In the case of tank mixtures with broadleaf herbicides, settling will occur if agitation is not continuous.

8. If an oil film starts to build up in the tank, drain it and clean tank with strong detergent solution.
9. Immediately after use, thoroughly clean the sprayer by flushing the system with clean water containing detergent.

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide AND PURSUIT®:

Field Peas: SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide may be tank-mixed with PURSUIT for control of certain broadleaf and grassy weeds in field peas in one spray operation. Apply in a minimum of 100 litres of water per hectare at a spray pressure of 275 kPa. Follow all precautions, limitations and timing recommendations on the PURSUIT label.

Time of Application: Field peas may be treated up to the sixth (6th) trifoliate leaf stage. Apply when volunteer wheat, volunteer barley, wild oats and green foxtail are in the 2-6 leaf stage. Apply up to the 4-leaf stage for control of broadleaf weeds. If broadleaf weeds and grassy weeds are not in the recommended treatment stage at the same time, then separate applications should be made.

Application Rate: SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide at 0.19 L/ha tank-mixed with PURSUIT at 210 mL/ha and the adjuvant AMIGO at 0.5% v/v.

Weeds Controlled: Wild oats, green foxtail, volunteer barley, volunteer wheat plus the weeds as listed on the PURSUIT label.

MIXING INSTRUCTIONS:

1. Thoroughly clean the sprayer by flushing the system with water containing detergent.
2. Fill clean spray tank half full with clean water. Start agitation system.
3. If tank-mixing SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide and PURSUIT for once over grass and broadleaf weed control in field peas, add the correct amount of PURSUIT. Continue to agitate.
4. Add the required amount of SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide to the tank. Continue to agitate.
5. Add the correct amount of adjuvant AMIGO along with the remaining amount of water necessary to fill the spray tank.
6. Continue to agitate or run the by-pass system.
7. After any break in the spraying operation, agitate thoroughly before spraying again. Check inside the tank to ensure that sprayer agitation is sufficient to re-mix the spray materials. Do not allow the mixture to sit overnight.
8. Immediately after use, thoroughly clean the sprayer by flushing the system with clean water containing detergent.

Imazethapyr Tolerant Canola (e.g. canola varieties with the SMART trait): SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide may be tank-

mixed with **PURSUIT** for control of certain broadleaf and grassy weeds in imazethapyr-tolerant canola varieties in one spray operation. Apply in a minimum of 100 litres of water per hectare at a spray pressure of 275 kPa. Follow all precautions, limitations and timing recommendations on the **PURSUIT** label.

Time of Application: Imazethapyr-tolerant canola varieties may be treated after the crop has developed one (1) fully expanded leaf. Apply when grassy weeds are in the 2 to 6-leaf stage. Apply up to the 4-leaf stage for control of broadleaf weeds.

Application Rate: **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** at 0.19L/ha tank-mixed with **PURSUIT** at 0.105 or 0.21 L/ha and the adjuvant **AMIGO** at 0.5% v/v.

Weeds Controlled: As listed for **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** plus the following additional weeds.

PURSUIT at 0.105 L/ha for control of chickweed, hempnettle, redroot pigweed*, stinkweed, volunteer canola (not imazethapyr-tolerant), wild mustard and wild buckwheat*, in the 1 to 4-leaf stage.

*For the control of light infestations only. For heavy infestations, use the 0.21 L/ha rate of **PURSUIT**.

PURSUIT at 0.21 L/ha for control of weeds as listed on the **PURSUIT** label.

MIXING INSTRUCTIONS: For mixing instructions, refer to **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** and **PURSUIT** tank-mix on field peas.

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide AND MUSTER®:

Canola: **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** may be tank-mixed with **MUSTER** for control of certain broadleaf and grassy weeds in canola in one spray operation. Apply in a minimum of 100 liters of water per hectare at a spray pressure of 275 kPa. Follow all precautions, limitations and timing recommendations on the **MUSTER** label.

Time of Application: Canola may be treated from the 2-leaf stage to the beginning of bolting. Apply when the grassy weeds are in the 2 to 6-leaf stage and when the broadleaf weeds are in the cotyledon to 6-leaf stage. If broadleaf weeds and grassy weeds are not in the recommended treatment stage at the same time, then separate applications should be made.

Application Rate: **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** at 0.19 L/ha tank-mixed with **MUSTER** at 20 or 30 g/ha and the adjuvant

AMIGO at 0.5% v/v.

Weeds Controlled:

Muster at 20 or 30 g/ha: Wild oats, green foxtail, volunteer barley, volunteer oats, volunteer wheat, hempnettle, wild mustard, green smartweed, flixweed (spring seedlings), stinkweed*, and redroot pigweed.

** Stinkweed suppression at the lower rate. Apply to stinkweed in the 1 to 4 leaf stage.*

MIXING INSTRUCTIONS:

1. Thoroughly clean the sprayer by flushing the system with water containing detergent.
2. Fill clean spray tank half full with clean water. Start agitation system.
3. Add the required amount of MUSTER to the tank. Continue to agitate.
4. Once MUSTER is in suspension, add the required amount of **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide**. Continue to agitate.
5. Add the correct amount of adjuvant AMIGO along with the remaining amount of water necessary to fill the spray tank.
6. Continue to agitate or run the by-pass system.
7. On repeat tankloads, prepare a MUSTER/water slurry and add to required water volume in the spray tank prior to adding **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** and AMIGO.
8. After any break in the spraying operation, agitate thoroughly before spraying again. Check inside the tank to ensure that sprayer agitation is sufficient to re-mix the spray materials. Do not allow the mixture to sit overnight.
9. Immediately after use, refer to MUSTER label for appropriate tank cleanout instructions.

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide AND LIBERTY® 150 SN - PRAIRIE PROVINCES AND PEACE RIVER REGION OF BRITISH COLUMBIA ONLY:

Canola: For use on Glufosinate Ammonium tolerant canola varieties only (e.g. varieties or hybrids labelled LIBERTYLINK).

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide may be tank-mixed with LIBERTY 150 SN Herbicide for control of certain broadleaf and grass weeds in Glufosinate Ammonium tolerant canola varieties in one spray operation. For ground application, apply in a minimum of 110 L/ha spray volume at a pressure of 275 kPa. For aerial applications apply this tank-mix in a minimum of 55 L/ha spray volume at a pressure of 300 kPa.

Follow all precautions, limitations and timing recommendations on the LIBERTY 150 SN Herbicide label.

Time of Application: Glufosinate Ammonium tolerant canola varieties may be treated

from the cotyledon stage up to the early bolting stage. Apply when the wild oats, volunteer wheat, volunteer oats and green foxtail are in the 1 to 5 leaf stage. Refer to LIBERTY 150 SN Herbicide label for application timing on all remaining grass and broadleaf weeds for 2.67 or 4.0 L/ha.

Application Rate: SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide at 63 mL/ha tank-mixed with LIBERTY 150 SN Herbicide at 2.67 to 4.0 L/ha and with the adjuvant AMIGO at 0.5% v/v.

Weeds Controlled: Wild oats, green foxtail, volunteer barley, volunteer wheat, volunteer oats plus all remaining grass weeds and broadleaf weeds listed on the LIBERTY 150 SN Herbicide label at the application rates of 2.67 and 4.0 L/ha.

MIXING INSTRUCTIONS:

1. Thoroughly clean the sprayer by flushing the system with water containing detergent.
2. Fill clean spray tank half full with clean water. Start agitation system.
3. Add the required amount of AMIGO adjuvant to the tank. Continue to agitate until thoroughly mixed.
4. STOP agitation. Add the correct amount of LIBERTY 150 SN Herbicide to the spray tank. Start agitation system.
5. Add the correct amount of SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide along with the remaining amount of water necessary to fill the spray tank.
6. Continue to agitate or run the by-pass system and spray out immediately.
7. After any break in the spraying operation, agitate thoroughly before spraying again. Check inside the tank to ensure that sprayer agitation is sufficient to re-mix the spray materials. Do not allow the mixture to sit overnight. In the case of tank mixtures with broadleaf herbicides, settling will occur if agitation is not continuous.
8. If an oil film starts to build up in the tank, drain it and clean tank with strong detergent solution.
9. Immediately after use, thoroughly clean the sprayer by flushing the system with clean water containing detergent.

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide AND LIBERTY® 200 SN - EASTERN CANADA AND BRITISH COLUMBIA ONLY

Canola: For use on Glufosinate Ammonium tolerant canola varieties only (e.g. varieties or hybrids labelled LIBERTY LINK).

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide label may be tank-mixed with LIBERTY 200 SN Herbicide for control of certain broadleaf and grass weeds in Glufosinate Ammonium tolerant canola varieties in one spray operation. Apply in a minimum of 110 L/ha spray volume at a pressure of 275 kPa. Follow all precautions, limitations and timing recommendations on the LIBERTY 200 SN

Herbicide label.

Time of Application: Glufosinate Ammonium tolerant canola varieties may be treated from the cotyledon stage up to the early bolting stage. Apply when the wild oats, volunteer wheat, volunteer oats and green foxtail are in the 1 to 5 leaf stage. Refer to the LIBERTY 200 SN Herbicide label for application timing on all remaining grass and broadleaf weeds for 2.0 or 2.5 L/ha.

Application Rate: SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide at 63 mL/ha tank-mixed with LIBERTY 200 SN Herbicide at 2.0 to 2.5 L/ha and with the adjuvant AMIGO at 0.5% v/v.

Weeds Controlled: Wild oats, green foxtail, volunteer barley, volunteer wheat, volunteer oats plus all remaining grass weeds and broadleaf weeds listed on the LIBERTY 200 SN Herbicide label at the application rates of 2.0 and 2.5 L/ha.

MIXING INSTRUCTIONS:

1. Thoroughly clean the sprayer by flushing the system with water containing detergent.
2. Fill clean spray tank half full with clean water. Start agitation system.
3. Add the required amount of AMIGO adjuvant to the tank. Continue to agitate until thoroughly mixed.
4. STOP agitation. Add the correct amount of LIBERTY 200 SN Herbicide to the spray tank. Start agitation system.
5. Add the correct amount of SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide along with the remaining amount of water necessary to fill the spray tank.
6. Continue to agitate or run the by-pass system and spray out immediately.
7. After any break in the spraying operation, agitate thoroughly before spraying again. Check inside the tank to ensure that sprayer agitation is sufficient to re-mix the spray materials. Do not allow the mixture to sit overnight. In the case of tank mixtures with broadleaf herbicides, settling will occur if agitation is not continuous.
8. If an oil film starts to build up in the tank, drain it and clean tank with strong detergent solution.
9. Immediately after use, thoroughly clean the sprayer by flushing the system with clean water containing detergent.

MINOR USES

NOTE TO USER:

READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR THE INDICATED SPECIAL USE APPLICATIONS (LISTED BELOW):

The DIRECTIONS FOR USE for this product for the uses described below were developed by persons other than Loveland Products Canada Inc. and accepted for registration by

Health Canada under the User Requested Minor Use Label Expansion program. Loveland Products Canada Inc. itself makes no representation or warranty with respect to performance (efficacy) or crop tolerance (phytotoxicity) claims for this product when used on the crops listed below. Accordingly, the Buyer and User assume all risks related to performance and crop tolerance arising, and agree to hold Loveland Products Canada Inc. harmless from any claims based on efficacy or phytotoxicity in connection with the uses described below.

CROP	WEEDS CONTROLLED	APPLICATION RATE OF:		REMARKS
		SHADOW RTM	AMIGO	
PRAIRIE CARNATION	Annual weeds listed on SHADOW RTM label. Refer to weed/rate chart in this label.	0.19 L/ha	0.5 % v/v	<p>TIME OF APPLICATION:</p> <p>Apply SHADOW RTM post-emergence of weeds and crops.</p> <p>Apply a maximum of one application per year using ground equipment.</p> <p>Apply in a minimum spray volume of 110 L/ha.</p> <p>Do not harvest treated Prairie Carnations for human consumption.</p> <p>Ground application only.</p>

<p>CHERRY (SWEET AND TART)</p> <p>(established trees)</p>	<p>Labelled grassy weeds. Refer to weed/rate chart in this label.</p>	<p>0.19 – 0.38 L/ha</p>	<p>0.5 – 1.0 % v/v</p>	<p>TIME OF APPLICATION: Apply SHADOW RTM to established sweet and tart cherry trees, post-emergence of weeds. Do not apply SHADOW RTM directly over the top of the trees. Direct the spray at the base of the tree where grassy weeds are growing. If SHADOW RTM is improperly applied, crop injury can occur.</p> <p>Observe a PHI of 14 days.</p> <p>Ground application only.</p> <p>Apply a maximum of one application per year using ground equipment.</p> <p>Apply in a minimum spray volume of 100 litres of water per hectare.</p>
<p>HIGHBUSH BLUEBERRY</p>	<p>SHADOW RTM labelled grassy weeds. Refer to weed/rate chart in this label.</p>	<p>0.19-0.38 L/ha</p>	<p>0.5 to 1.0% v/v</p>	<p>TIME OF APPLICATION: Apply SHADOW RTM post-emergence of weeds and crops. Apply a maximum of one application per year using ground equipment. Apply as a broadcast spray directly to the ground. Apply in a minimum spray volume of 100 L/ha. Observe a PHI of 14 days.</p>

CROP	WEEDS CONTROLLED	APPLICATION RATE OF:		REMARKS
		SHADOW RTM	AMIGO	
				Ground application only.
CORIANDER, (Cilantro), CARAWAY	Labelled grassy weeds. Refer to weed/rate chart in this label	0.19-0.38 L/ha Refer to SHADOW RTM + AMIGO weed/rate chart in this label.	0.5-1.0% v/v Refer to SHADOW RTM + AMIGO weed/rate chart in this label.	TIME OF APPLICATION: Apply SHADOW RTM post-emergence of weeds and crop. Apply a maximum of one application per year, using ground equipment. Observe a PHI of 30 days for leaves and 60 days for seed. Ground application only.
DILL	Labelled grassy weeds. Refer to weed/rate chart on this label.	0.19-0.38 L/ha	0.5-1.0% v/v	TIME OF APPLICATION: Apply SHADOW RTM post-emergence of weeds and crop when dill is in the 3-5 leaf stage. Apply a maximum of one application per year using ground equipment. Apply a minimum spray volume of 100 L/ha. Observe a PHI of 30 days for dillweed leaves and a PHI of 40 days for dill seed. Ground application only.

<p>Chive</p>	<p>Labelled grassy weeds. Refer to weed/rate chart in this label</p>	<p>0.19 – 0.38 L/ha Refer to SHADOW RTM + AMIGO weed/rate chart in this label.</p>	<p>0.5 – 1.0 % v/v Refer to SHADOW RTM + AMIGO weed/rate chart in this label.</p>	<p>TIME OF APPLICATION: Apply a maximum of one application per year, post-emergent using ground equipment. Apply in a minimum spray volume of 110 L/ha. Observe a PHI of 30 days. Ground application only.</p>
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<p>Angelica; balm (lemon balm); basil; borage; burnet; chamomile; catnip; chervil; clary; costmary; culantro (leaf); horehound; hyssop; lavender; lovage; marigold; marjoram (includes sweet or annual marjoram, wild marjoram or oregano and pot marjoram); nasturtium; parsley (dried); pennyroyal; rosemary; rue; sage; savory, summer and winter; sweet bay (bay leaf); tansy; tarragon; thyme; wintergreen; woodruff; and wormwood</p>	<p>Labelled grassy weeds. Refer to weed/rate chart in this label.</p>	<p>0.19 L/ha</p>	<p>0.5 % v/v</p>	<p>TIME OF APPLICATION: Apply SHADOW RTM post-emergence of weeds and crop. Apply a maximum of one application per year using ground equipment. Apply as a broadcast spray directed to the ground. Apply in a minimum spray volume of 110 L/ha. Observe a PHI of 30 days. Ground application only.</p>
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<p>Anise (anise seed), caraway (black); celery seed; culantro (seed); cumin; fennel [common and Florence (seed)]; juniper berry; lovage (seed); mustard (seed); poppy (seed); and saffron</p>	<p>Labelled grassy weeds. Refer to weed/rate chart in this label.</p>	<p>0.19 L/ha</p>	<p>0.5 % v/v</p>	<p>TIME OF APPLICATION: Apply SHADOW RTM post-emergence of weeds and crop. Apply a maximum of one application per year using ground equipment. Apply as a broadcast spray directed to the ground. Apply in a minimum spray volume of 110 L/ha. Observe a PHI of 60 days. Ground application only.</p>
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<p>HOPS</p>	<p>Labelled grassy weeds. Refer to weed/rate chart in this label.</p>	<p>0.19-0.38 L/ha</p>	<p>0.5 -1.0% v/v</p>	<p>TIME OF APPLICATION: post-emergence of weeds and crop. Apply a maximum of one application per season, using ground equipment. Apply as a broadcast spray directed to the ground. Apply in a minimum spray volume of 110 litres of water per hectare. Observe a PHI of 21 days. Ground application only</p>
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FENUGREEK	Annual weeds listed on SHADOW RTM label	Refer to SHADOW RTM + AMIGO weed/rate chart in this label.	Refer to SHADOW RTM + AMIGO weed/ rate chart in this label.	<p>TIME OF APPLICATION:</p> <p>Apply SHADOW RTM post-emergent when fenugreek is in the 3 to 5 leaf stage.</p> <p>Apply a maximum of one application per season, using ground equipment.</p> <p>Observe a PHI of 30 days. Do not graze or feed SHADOW RTM – treated fenugreek forage to livestock.</p> <p>Do not use the greens of treated fenugreek as a vegetable for human consumption.</p> <p>Ground application only.</p>
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CROP	WEEDS CONTROLLED	APPLICATION RATE OF:		REMARKS
		SHADOW RTM	AMIGO	
DRY BULB ONIONS and GARLIC	Annual weeds listed on the SHADOW RTM label and suppression of annual bluegrass at the 2-6 leaf stage	0.38 L/ha	0.5% v/v	TIME OF APPLICATION: Apply SHADOW RTM post-emergent when the crop is in the 1- to 4-leaf stage. Apply a maximum of one application per season, using ground equipment. Observe a PHI of 45 days. Ground application only.
SAFFLOWER	Annual weeds listed on SHADOW RTM label	0.19-0.38 L/ha.	0.5-1.0% v/v.	TIME OF APPLICATION: Apply SHADOW RTM post-emergent when safflower is in the 6- to 8-leaf stage. Apply a maximum of one application per season using ground equipment. Apply in a minimum spray volume of 100 litres of water per hectare. Observe a PHI of 70 days. Ground application only.

SPINACH	Annual Weeds listed on SHADOW RTM label	Refer to SHADOW RTM + AMIGO weed/rate chart in this label.	Refer to SHADOW RTM + AMIGO weed/rate chart in this label.	Apply a maximum of two applications per year with 14 days between applications, post emergent by ground application when grassy weeds are in the 2- to 6leaf stage. Observe a PHI of 14 days. Ground application only.
CRANBERRY	Labelled grassy weeds. Refer to weed/rate chart in this label.	0.19-0.38 L/ha	0.5-1.0% v/v	TIME OF APPLICATION: Apply SHADOW RTM post-emergence of weeds and crop. Do not apply between the hook stage and full fruit set. Apply a maximum of one application per year using ground equipment. Apply in a minimum spray volume of 110 L of water /ha. Observe a PHI of 30 days.

RED GARDEN (TABLE) BEET, PARSNIP, CARROT, RADISH	Labelled grassy weeds. Refer to weed/rate chart in this label.	0.19-0.38 L/ha	0.5-1.0% v/v	TIME OF APPLICATION: Apply SHADOW RTM post-emergence of weeds and crop using ground equipment. Apply a maximum of two applications per year. If repeat application is required, allow at least 14 days between first and second application. Do not apply more than 0.38 L/ha (90 grams ai/ha) per crop season. Apply in a minimum spray volume of 110 L/ha. Observe a PHI of 30 days. Ground application only.
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APPLICATION INSTRUCTIONS:

GROUND APPLICATION

Water volume and spray pressure:

For ground application, use sprayers equipped with standard flat fan nozzles. For optimum spray coverage, use nozzles tilted 45° forward.

The use of flood jet or hollow cone nozzles is not recommended, because of uneven and inadequate spray coverage. Thorough and uniform spray coverage over the entire leaf area of the target weeds is necessary for optimum weed control.

Thoroughly clean all screens to prevent nozzle clogging, especially when spray volumes of 55 to 110 L/ha are used.

For ground applications, use spray volumes of 55 to 225 L/ha and a minimum of 275 kPa pressure.

For applications to dense weed infestations or to dense crop canopies, use a minimum of 110 L/ha spray volume at pressures of 275 to 425 kPa. In any situation, ensure the proper rate of AMIGO is maintained as listed on the label under APPLICATION RATES OF **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide**.

For Bean (*Lupinus* spp.) (includes grain lupin, sweet lupin, white lupin and white sweet

lupin); Bean (*Phaseolus* spp.) (includes field bean, kidney bean, lima bean (dry), navy bean, pinto bean, tepary bean); Bean (*Vigna* spp.) (includes adzuki bean, blackeyed pea, catjang, cowpea, Crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean); Broad bean (fava bean) (*Vicia faba*); Chickpea (garbanzo bean) (*Cicer arietinum*); Guar (*Cyamopsis tetragonoloba*); Lablab bean (hyacinth bean) (*Lablab purpureus*); Lentil (*Lens esculenta*); Pea (*Pisum* spp.) (includes field pea); Pigeon pea (*Cajanus cajan*), a minimum spray volume of 110 L/ha is recommended.

AERIAL APPLICATION

Water volume and spray pressure:

Apply **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** alone or in tank mixes (ONLY with the recommended tank mix partners that are registered for aerial use) in no less than 28 L/ha spray volume at a pressure no less than 300 kPa.

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 on this label.

When applying **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** by aircraft, uniform coverage is essential. To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Aerial Use Precautions

- Read and understand the entire label before opening this product. If you have questions, call Loveland Products Canada Inc. at 1-800-328-4678 or obtain technical advice from the distributor or your provincial agricultural representative.
- 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 terrain where there is a potential for surface run-off to enter aquatic systems.
- 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.
- Do not apply during periods of dead calm or when wind velocity and direction pose a risk of spray drift.
- Do not apply when wind speed is greater than 16 km/h at a flying height at the site of application.
- Do not apply with spray droplets smaller than ASAE medium classification.

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 pilots have communication capabilities at each treatment site at the time of application.
- The field crew and the mixer/loaders must wear goggles or face shield, rubber apron, chemical-resistant gloves, rubber boots, long sleeved shirt and long legged pants.
- 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.

Product Specific Precautions:

- Read and understand the entire label before opening this product. If you have questions, call the manufacturer at 1-800-328-4678 or obtain technical advice from the distributor or your provincial agricultural representative.

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) medium 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.

Buffer zones:

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 S572.1) 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 10 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 S572.1) 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.

Spot treatments using hand-held equipment **DO NOT** require a buffer zone.

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) and sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands).

Method of Application	Crop		Buffer Zones (metres) Required for Protection of:		
			Freshwater Habitat of Depths:		Terrestrial habitat
			Less than 1 m	Greater than 1 m	
Field sprayer	All crops		1	1	1
Aerial	Canola, flax (including linoleic acid varieties), field peas, lentils, potatoes, Oriental (brown) mustard (condiment and oil seed types), yellow mustard, soybeans, sunflowers, Brassica carinata, dry bulb onions, garlic.	Fixed wings	5	1	40
		Rotary wing	5	1	35
	Dry common beans, Desi and Kabuli chickpeas, pigeon pea	Fixed wing	1	1	20
		Rotary wing	1	1	20

For tank mixes, consult the labels of the tank-mix partners and observe the largest (most restrictive) buffer zone of the products involved in the tank mixture and apply using the coarsest spray (ASAE) category indicated on the labels for those tank mix partners.

The buffer zones for this product can be modified based on weather conditions and spray equipment configuration by accessing the Buffer Zone Calculator on the Drift Mitigation page of the Pesticides and Pest Management portion of the Canada.ca web site.

For Cherry (sweet and tart):

Use of the following spray methods or equipment DO NOT require a buffer zone: hand-held or backpack sprayer and spot treatment, *inter-row hooded sprayer*, *low-clearance hooded or shielded sprayers that ensure spray drift does not come in contact with orchard crop fruit or foliage*.

For tank mixes, consult the labels of the tank-mix partners and observe the largest (most restrictive) buffer zone of the products involved in the tank mixture and apply using the coarsest spray (ASAE) category indicated on the labels for those tank mix partners.

RESTRICTIONS AND LIMITATIONS:

1. Use only for crops listed on the label.
2. Thorough preplant tillage operations are required to fields where sod or forage grass crops may have grown in the previous year.
3. Take necessary precautions to avoid sprayer overlaps.
4. Rainfall within one hour of application may reduce the effectiveness of the spray.
5. Do not mix or apply **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** with any other additive, pesticide or with fertilizer except as specifically recommended on the label.
6. Allow 4 days between application of **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** and any other chemical not recommended as a tank-mix combination on the label.
7. Do not apply more than 0.38 L/ha (90 grams a.i./ha) per season.
8. Do not use crops for grazing of livestock or green feed following application of **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** until after the appropriate interval as specified in the crop recommendations table has been observed. Do not cut treated crops for forage until the appropriate interval as specified in the crop recommendations table has been observed.
9. **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** may be applied by air for certain crops specified in this label.
10. **DO NOT** enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

HERBICIDE RESISTANCE MANAGEMENT RECOMMENDATIONS: For resistance management, **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** is a Group 1 herbicide. Any weed population may contain or develop plants naturally resistant to **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** and other Group 1 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 **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** or other Group 1 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 Loveland Products Canada Inc. 1-800-328-4678.

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.

SHADOW RTM[®] is a trademark of Arysta LifeScience North America, LLC, AMIGO[®] is a registered trademark of Arysta LifeScience North America, LLC.

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IN CASE OF EMERGENCY DUE TO A MAJOR SPILL, FIRE OR POISONING INVOLVING THIS PRODUCT CALL DAY OR NIGHT, 1-800-561-8273 or CHEMTREC 1-800-424-9300

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

- 1.1 **PRODUCT IDENTIFIER:** **REGISTRATION NO. 29277 PEST CONTROL PRODUCTS ACT**
TRADE NAME: SHADOW™ RTM™ EMULSIFIABLE CONCENTRATE POST-EMERGENCE HERBICIDE
- 1.2 **RECOMMENDED USE:** GROUP 1 HERBICIDE
- 1.3 **MANUFACTURED FOR AND DISTRIBUTED BY:**
 LOVELAND PRODUCTS CANADA, INC.
 PO Box 5234 | 64137 Hwy 543 E • High River, Alberta T1V 1M4
- 1.4 **24 Hour Emergency Phone: (Chemtrec): 1-800-424-9300 (Toll Free) - Additional Emergency Phone 1-800-561-8273**
Loveland Technical Service: 1-800-328-4678

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Combustible Liquid	Category 4	H227
Aspiration Hazard	Category 1	H304
Skin Corrosion/Irritation	Category 2	H315
Eye Damage/Irritation	Category 2B	H320
Carcinogenicity	Category 2	H351
STOT-RE	Category 2	H373

2.2 Label elements



Signal word: DANGER
 Hazard Statement: H227 – Combustible liquid.
 H304 – May be fatal if swallowed and enters airway.
 H315 – Causes skin irritation.
 H320 – Causes eye irritation.
 H351 – Suspected of causing cancer.
 H373 – May cause damage to organs through prolonged or repeated exposure.

Precautionary Statement: P210 – Keep away from heat/sparks/open flames/hot surfaces – No smoking.
 (Prevention): P264 – Wash hands thoroughly after handling.
 P280 – Wear protective gloves/protective clothing/eye protection/face protection.
 P260 – Do not breathe dust/fume/gas/mist/vapours/spray.
 P201 – Obtain special instructions before use.
 P202 – Do not handle until all safety precautions have been read and understood.

Precautionary Statement: P370+P378 – In case of fire: Use carbon dioxide (CO₂), dry extinguishing powder, foam, water fog to extinguish.
 (Response): P301+P310 – IF SWALLOWED: Immediately call a poison centre or doctor/physician.
 P331 – Do NOT induce vomiting.
 P302+P352 – IF ON SKIN: Wash with plenty of soap and water.
 P320 – Specific treatment (see First Aid on the product label).
 P332+P313 – If skin irritation occurs: Get medical advice/attention.
 P362 – Take off contaminated clothing and wash it before reuse.
 P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337+P313 – If eye irritation persists: Get medical advice/attention.
 P308+P313 – If exposed or concerned: Get medical advice/attention.
 P314 – Get medical advice/attention if you feel unwell.



Precautionary Statement:

(Storage): P403+P235 – Store in a well-ventilated place. Keep cool.
P405 – Store locked up.

Precautionary Statement:

(Disposal): P501 – Dispose of contents/container in accordance with local, provincial and national regulations.

2.3 Other hazards

None known.

3. COMPOSITION, INFORMATION ON INGREDIENTS

3.1 Substances**3.2 Mixtures**

Chemical Name:	CAS No.	Concentration [%]
Heavy aromatic Naphtha Solvent	64742-94-5	59.6 – 59.9
Clethodim	99192-21-2	26.4 240 g/L
1,2,4-trimethylbenzene	95-63-6	< 5.87
Naphthalene	91-20-3	1.038 – 1.083

Ingredients not listed are proprietary or non-hazardous

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

General Advice: Get medical attention if symptoms occur.

Ingestion: 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.

Skin contact: 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.

Eye contact: 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.

Inhalation: 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 treatment advice.

4.2 Most Important Symptoms and Effects, Acute and Delayed

Symptoms: Causes eye irritation. Cause skin irritation. Causes damage to organs. Inhalation may cause: irritation, coughing, shortness of breath. May be fatal if swallowed and enters airways.

4.3 Immediate Medical Attention and Special Treatment

Treatment: Treat symptomatically. Symptoms may be delayed.

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-800-561-8273

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

NOTES TO PHYSICIAN: No specific antidote. Employ supportive care. Treatment should be based on judgment of the physician in response to reactions of the patient. Treat symptomatically.

5. FIRE FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA:

Suitable Extinguishing Media: Carbon dioxide (CO₂), foam, water fog, dry chemical, or other extinguishing media suitable for the fire.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

Specific Hazards During Firefighting: Combustible liquid. During a fire, may form flammable/explosive vapour-air mixture. Combustion products may include and are not limited to: oxides of carbon, oxides of nitrogen and oxides of phosphorous.

5.3 SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS

Special Protective Equipment for Firefighters: Self-contained breathing apparatus and full protective gear should be worn in fighting large fires involving chemicals. Use water spray to keep fire exposed containers cool. Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of re-ignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream as it may spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this SDS.

6. ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Personal Precautions: Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering them.

6.2 ENVIRONMENTAL PRECAUTIONS

Environmental Precautions: Prevent further leakage or spillage if safe to do so. Do not contaminate water.

6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN-UP

Methods for Clean-Up: Contain or dike spilled material if possible. Should not be released into the environment. Large spills: Dike the spilled material where this is possible. Dig up heavily contaminated soil. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with small quantities of water. Small spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS

7. HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING:

Advice on Safe Handling: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. No open flames. No smoking. Avoid contact with eyes, skin and clothing. Do not breathe mist, spray or vapour. Wear personal protective equipment. Do not use in areas without adequate ventilation. Avoid prolonged exposure. Wash thoroughly after handling. Do not empty into drains. Handle and open container with care. Use care in handling/storage. Wash before eating, drinking and/or smoking.

7.2 CONDITIONS FOR SAFE STORAGE:

Requirements for Storage Areas and Containers: Proper grounding procedures to avoid static electricity should be followed. Keep in a fireproof place. Store in original container in a cool well-ventilated place, away from children, animals, food, feed or fertilizers. Keep unused product in resealed original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 CONTROL PARAMETERS:

Not normally required.

8.2 EXPOSURE CONTROLS:

Engineering Measures

Avoid creating mist or spray. Avoid splashing. Avoid any leak and work in fully closed specially engineered systems. Either local exhaust or general room ventilation is usually required.

OCCUPATIONAL EXPOSURE LIMITS

Components	List	Type	Value
Heavy aromatic naphtha solvent	ACGIH	STEL	10 mg/m ³
Naphthalene	ACGIH	TWA	52 mg/m ³
1,2,4-trimethylbenzene	ACGIH	TWA	123 mg/m ³

Individual Protection Measures:

Eye / Face Protection: Chemical goggles are recommended.
 Skin Protection: Chemical resistant clothing is recommended. Routinely wash work clothing and protective equipment to remove contaminants. The use of neoprene gloves is recommended. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.
 Respiratory Protection: In case of inadequate ventilation or risk of inhalation of vapours, use suitable respiratory equipment. Wear respiratory protection during operations where spraying or misting occurs. Wear NIOSH-certified air-purifying respiratory protection with an N, P or R95 or HE class filter and organic vapour cartridge if necessary. Wear air supplied respiratory protection if exposure concentrations are unknown or if air-purifying respirators may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 APPEARANCE : Liquid
ODOUR: Aromatic.
ODOUR THRESHOLD: No data available.
COLOUR: Amber.
pH: 4.11 (1% solution @ 25 °C)
MELTING POINT / FREEZING POINT: No data available / 0 °C.
BOILING POINT: No data available.
FLASH POINT: 62.8 °C (Closed Cup).
FLAMMABILITY (solid, gas): No data available.
UPPER / LOWER FLAMMABILITY OR EXPLOSIVE LIMITS: No data available.
VAPOUR PRESSURE: No data available.
SOLUBILITY: Soluble in hydrocarbon solvents; insoluble in water.
PARTITION CO-EFFICIENT, n-OCTANOL / WATER No data available.
AUTO-IGNITION TEMPERATURE: No data available.
DECOMPOSITION TEMPERATURE: No data available.
VISCOSITY: 2.05 cP @ 25 °C.
VISCOSITY, kinematic: 2.096 cSt (calculated).
VISCOSITY, dynamic: 6 mPa.s @ 25 °C
SPECIFIC GRAVITY (Water = 1): 0.96 g/ml
DENSITY: 0.96 kg/L

Note: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.

10. STABILITY AND REACTIVITY

10.1 REACTIVITY

Stable

10.2 CHEMICAL STABILITY

Stable under normal conditions. Combustible liquid. May form flammable/explosive vapour-air mixture.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

No reactions known under normal use conditions. Will not polymerize.

10.4 CONDITIONS TO AVOID

Open flame. Heat. Overheating. Direct sunlight. Sparks.

10.5 INCOMPATIBLE MATERIALS

Strong bases. Strong acids.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

May release flammable gases. Burning produces irritating, toxic and noxious fumes. Oxides of carbon. Oxides of nitrogen. Oxides of Sulphur. Toxic chlorine compounds.

11. TOXICOLOGICAL INFORMATION

11.1 LIKELY ROUTES OF EXPOSURE

Inhalation. Skin contact, eye contact.

LC₅₀ (rat): > 5.40 mg/L (4 HR).

LD₅₀ Oral (female rat): 2920 mg/kg

(male rat): 3610 mg/kg

LD₅₀ Dermal (rabbit): 5000 mg/kg

Acute Toxicity Estimates: No data available

Skin Irritation (rabbit): Irritant

Eye Irritation (rabbit): Irritant

Specific Target Organ Toxicity: May cause damage to organs through prolonged or repeated exposure.

Aspiration: May be fatal if swallowed and enters airways.

Skin Sensitization (guinea pig): Not a sensitizer

Carcinogenicity: Suspected of causing cancer.

Germ Cell Mutagenicity: No data available

Interactive Effects: None known.

12. ECOLOGICAL INFORMATION

12.1 ECOTOXICITY

The product is not classified as environmentally hazardous. Moderately to highly toxic to aquatic organisms.

Clethodim	Bluegill	> 33 mg/L – 96-hour LC ₅₀
	Daphnia magna	20.2 mg/L – 48-hour EC ₅₀
Naphthalene	Rainbow trout	> 0.91 mg/L – 96-hour LC ₅₀
	Daphnia magna	> 1.96 mg/L – 48-hour EC ₅₀

Drift or runoff may adversely affect non-target plants.

Do not apply directly to water.

Do not contaminate water when disposing of equipment wash water.

Do not apply when weather conditions favor drift from target area.

12.2 PERSISTENCE AND DEGRADABILITY

Biodegradability: 39% (Heavy aromatic naphtha solvent).

12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: BCF fish 1 >= 427.

12.4 MOBILITY IN SOIL

Migrates to soil.

12.5 OTHER ADVERSE EFFECTS

Assessment: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.



13. DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Do not reuse containers for any purpose. Container is recyclable, and is to be disposed of at a container collection site. Contact your local dealer/distributor for the location of the nearest collection site. Before taking container to the collection site: Triple or pressure-rinse the empty container, adding the rinsate to the spray tank. Make the empty 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 information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Do not contaminate water, food or feed by storage or disposal.

14. TRANSPORT INFORMATION

14.1 LAND TRANSPORT

TDG Shipping Description: NOT REGULATED

15. REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS

NFPA & HMIS Hazard Ratings:	NFPA		HMIS
	1 Health	0 Least	1 Health
	2 Flammability	1 Slight	2 Flammability
	1 Instability	2 Moderate	1 Reactivity
		3 High	X PPE
		4 Severe	

CEPA – Domestic Substances List (DSL): All substances in this product are listed on the DSL or not required to be listed
Hazardous Products Act Information: CPR Compliance: This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.
WHMIS Classification: Exempt.
National Fire Code of Canada: Not applicable.

16. OTHER INFORMATION

SDS STATUS: New.

PREPARED BY: Registrations and Regulatory Affairs

REVIEWED BY: Environmental Health and Safety

PCP (Pest Control Products Act) Registration No. 29277

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2018-6551
2019-04-02

SHADOW[®] RTM[™]

EMULSIFIABLE CONCENTRATE
POST-EMERGENCE HERBICIDE

USE WITH AMIGO[®] ADJUVANT

GROUP **1** HERBICIDE

CONTAINS CLETHODIM

POST-EMERGENCE HERBICIDE FOR CONTROL OF GRASSES IN SEEDLING ALFALFA, DRIED SHELLLED PEA AND BEAN (EXCEPT SOYBEAN), Highbush BLUEBERRY, CANOLA, CORIANDER, DILL, CARAWAY, FENUGREEK, CRANBERRY, FLAX (including low linolenic acid varieties), ORIENTAL (BROWN) MUSTARD (condiment and oilseed types), BRASSICA CARINATA, YELLOW MUSTARD, DRY BULB ONIONS AND GARLIC, POTATOES, PRAIRIE CARNATION, SAFFLOWER, SOYBEANS, SPINACH, and SUNFLOWERS, RED GARDEN (TABLE) BEET, PARSNIP, CARROT AND, RADISH, CHERRY (tart and sweet), CERTAIN HERBS, SPICES and HOPS.

AGRICULTURAL

ACTIVE INGREDIENT: CLETHODIM 240 g/L

REGISTRATION NO. 29277 _____ PEST CONTROL PRODUCTS ACT

WARNING: EYE AND SKIN IRRITANT

**KEEP OUT OF REACH OF CHILDREN
READ THE LABEL AND BOOKLET BEFORE USING**

NET CONTENTS: (250 mL - 9 LITRES)

IN CASE OF EMERGENCY DUE TO A MAJOR SPILL, FIRE OR POISONING INVOLVING THIS PRODUCT CALL DAY OR NIGHT,
1-800-561-8273

Loveland Products Canada Inc.
PO Box 5234 | 64137 Hwy 543 E
High River, AB T1V 1M4
1-800-328-4678

PRECAUTIONS:

KEEP OUT OF REACH OF CHILDREN. CAUSES EYE AND SKIN IRRITATION.

Avoid contact with skin, eyes and clothing. Wash concentrate from skin or eyes immediately. Do not inhale fumes. Avoid breathing vapours or spray mist. After use, wash hands and other exposed skin. When using, do not eat, drink or smoke. Remove and launder contaminated clothing separately from household laundry before reuse. Store the container tightly closed and away from seeds, feeds, fertilizer, plants and foodstuffs. Observe appropriate provincial buffer zones around bodies of water and wetland areas.. When handling the concentrate, mixing, loading or during cleanup and repair, wear goggles or face shield, rubber apron, chemical-resistant gloves, rubber boots, long-sleeved shirt and long pants. Wear long-sleeved shirt and long pants during application. In addition, for hand-held application equipment, including backpack sprayer, wear chemical-resistant gloves during application.

Apply only when the potential for drift to areas of human habitation or areas of human activity such as houses, cottages, schools and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings

During application, wear long sleeved shirt, long legged pants and chemical-resistant gloves. Chemical resistant gloves are not required to be worn during groundboom or aerial application.

Application is limited to agricultural crops only when there is low risk to drift to areas of human habitation or activity such as houses, cottages, schools and recreation areas, taking into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

ENVIRONMENTAL HAZARDS:

TOXIC to aquatic organisms and non-target terrestrial plants.

Observe buffer zones specified under DIRECTIONS FOR USE.

Toxic to certain beneficial insects. Minimize spray drift to reduce harmful effects on beneficial insects in habitats next to the application site such as hedgerows and woodland.

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

Avoid application when heavy rain is forecast.

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

This product contains aromatic petroleum distillates that are toxic to aquatic organisms.

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

As this product is not registered for the control of pests in aquatic systems, DO NOT use to control aquatic pests.

DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

FIRST AID:

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 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 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.

TOXICOLOGICAL INFORMATION: Treat symptomatically. This product contains petroleum distillates. Vomiting may cause aspiration pneumonia. Danger from lung aspiration of petroleum based solvents must be weighed against toxicity when considering emptying stomach.

STORAGE AND DISPOSAL

STORAGE: To prevent contamination, store this product away from food or feed.

DISPOSAL:

RECYCLABLE CONTAINER DISPOSAL: 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.

DISPOSAL OF UNUSED, UNWANTED PRODUCT: 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.

SHADOW RTM® is a trademark of Arysta LifeScience North America, LLC, AMIGO® is a registered trademark of Arysta LifeScience North America, LLC.

SHADOW[®] RTM[™]

USE WITH AMIGO[®] ADJUVANT

**EMULSIFIABLE CONCENTRATE
POST-EMERGENCE HERBICIDE**

GROUP	1	HERBICIDE
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CONTAINS CLETHODIM

POST-EMERGENCE HERBICIDE FOR CONTROL OF GRASSES IN SEEDLING ALFALFA, DRIED SHELLED PEA AND BEAN (EXCEPT SOYBEAN), Highbush BLUEBERRY, CANOLA, CORIANDER, DILL, CARAWAY, FENUGREEK, CRANBERRY, FLAX (including low linolenic acid varieties), ORIENTAL (BROWN) MUSTARD (condiment and oilseed types), *BRASSICA CARINATA*, YELLOW MUSTARD, DRY BULB ONIONS AND GARLIC, POTATOES, PRAIRIE CARNATION, SAFFLOWER, SOYBEANS, SPINACH, SUNFLOWERS, RED GARDEN (TABLE) BEET, PARSNIP, CARROT, RADISH, CHERRY (tart and sweet), CERTAIN HERBS, SPICES and HOPS.

AGRICULTURAL

ACTIVE INGREDIENT: CLETHODIM 240 g/L

REGISTRATION NO. 29277 PEST CONTROL PRODUCTS ACT

WARNING: EYE AND SKIN IRRITANT

KEEP OUT OF REACH OF CHILDREN

READ THE LABEL AND BOOKLET BEFORE USING

NET CONTENTS: (250 mL - 9 LITRES)

IN CASE OF EMERGENCY DUE TO A MAJOR SPILL, FIRE OR POISONING INVOLVING THIS PRODUCT CALL DAY OR NIGHT, 1-800-561-8273

Loveland Products Canada Inc.
PO Box 5234 | 64137 Hwy 543 E
High River, AB T1V 1M4
1-800-328-4678

SHADOW[®] RTM[™] is a trademark of Arysta LifeScience North America, LLC, and AMIGO[®] is a registered trademark of Arysta LifeScience North America, LLC.

GENERAL INFORMATION:

SHADOW® RTM™ is a selective post-emergence herbicide for control of a broad range of grasses in seedling alfalfa, bean (*Lupinus* spp.) (includes grain lupin, sweet lupin, white lupin and white sweet lupin); bean (*Phaseolus* spp.) (includes field bean, kidney bean, lima bean (dry), navy bean, pinto bean, tepary bean); bean (*Vigna* spp.) (includes adzuki bean, blackeyed pea, catjang, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean); broad bean (fava bean) (*vicia faba*); chickpea (garbanzo bean) (*Cicer arietinum*); guar (*Cyamopsis tetragonoloba*); lablab bean (hyacinth bean) (*Lablab purpureus*); lentil (*Lens esculenta*); pea (*Pisum* spp.) (includes field pea); pigeon pea (*Cajanus cajan*) highbush blueberry, canola, coriander, dill, caraway, fenugreek, cranberry, flax (including low linolenic acid varieties), oriental (brown) mustard (condiment and oilseed types), *Brassica carinata*, safflower, yellow mustard, dry bulb onions and garlic, potatoes, Prairie Carnation, soybeans, spinach, sunflowers, red garden (table) beet, parsnip, carrot, radish, cherry (tart and sweet), certain herbs, spices and hops.

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide is to be used only with the adjuvant AMIGO®.

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide is a systemic herbicide which is translocated from the treated foliage to the growing points of the leaves, shoots and roots. Uptake into the plant is primarily through its leaves. Thorough coverage of the foliage is important for consistent grass control. Susceptible grasses that are actively growing will undergo a burn-back and colour change after treatment. Leaf foliage will first change from green to yellowish, then purplish and finally brown colour. The time required for complete control is normally 7 to 21 days following treatment, depending on growing conditions and crop competition.

PRECAUTIONS:

KEEP OUT OF REACH OF CHILDREN. CAUSES EYE AND SKIN IRRITATION.

Avoid contact with skin, eyes and clothing. Wash concentrate from skin or eyes immediately. Do not inhale fumes. Avoid breathing vapours or spray mist. After use, wash hands and other exposed skin. When using, do not eat, drink or smoke. Remove and launder contaminated clothing separately from household laundry before reuse. Store the container tightly closed and away from seeds, feeds, fertilizer, plants and foodstuffs. Observe appropriate provincial buffer zones around bodies of water and wetland areas.

When handling the concentrate, mixing, loading or during cleanup and repair, wear goggles or face shield, rubber apron, chemical-resistant gloves, rubber boots, long-sleeved shirt and long pants. Wear long-sleeved shirt and long pants during application. In addition, for hand-held application equipment, including backpack sprayer, wear chemical-resistant gloves during application.

Apply only when the potential for drift to areas of human habitation or areas of human activity such as houses, cottages, schools and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

During application, wear long sleeved shirt, long legged pants and chemical-resistant gloves. Chemical resistant gloves are not required to be worn during groundboom or aerial application.

Application is limited to agricultural crops only when there is low risk to drift to areas of human habitation or activity such as houses, cottages, schools and recreation areas, taking into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

ENVIRONMENTAL HAZARDS:

TOXIC to aquatic organisms and non-target terrestrial plants.

Observe buffer zones specified under DIRECTIONS FOR USE.

Toxic to certain beneficial insects. Minimize spray drift to reduce harmful effects on beneficial insects in habitats next to the application site such as hedgerows and woodland

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

Avoid application when heavy rain is forecast.

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

This product contains aromatic petroleum distillates that are toxic to aquatic organisms.

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

As this product is not registered for the control of pests in aquatic systems, DO NOT use to control aquatic pests.

DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes

FIRST AID:

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.

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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 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.

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TOXICOLOGICAL INFORMATION: Treat symptomatically. This product contains petroleum distillates. Vomiting may cause aspiration pneumonia. Danger from lung aspiration of petroleum based solvents must be weighed against toxicity when considering emptying stomach.

STORAGE AND DISPOSAL

STORAGE: To prevent contamination, store this product away from food or feed.

DISPOSAL:

RECYCLABLE CONTAINER DISPOSAL: 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.

DISPOSAL OF UNUSED, UNWANTED PRODUCT: 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.

DIRECTIONS FOR USE:

Not for use in greenhouses.

A 30-day plant-back interval should be observed for all unlabelled crops.

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide is to be used only on seedling alfalfa, bean (*Lupinus* spp.) (includes grain lupin, sweet lupin, white lupin and white sweet lupin); bean (*Phaseolus* spp.) (includes field bean, kidney bean, lima bean (dry), navy bean, pinto bean, tepary bean); bean (*Vigna* spp.) (includes adzuki bean, blackeyed pea, catjang, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean); broad bean (fava bean) (*Vicia faba*); chickpea (garbanzo bean) (*Cicer arietinum*); guar (*Cyamopsis tetragonoloba*); lablab bean (hyacinth bean) (*Lablab purpureus*); lentil (*Lens esculenta*); pea (*Pisum* spp.) (includes field pea); pigeon pea (*Cajanus cajan*) highbush blueberry, canola, coriander, dill, caraway, fenugreek, cranberry, flax (including low linolenic acid varieties), oriental (brown) mustard (condiment and oilseed types), Brassica carinata, safflower, yellow mustard, dry bulb onions and garlic, potatoes, Prairie Carnation, soybeans, spinach, sunflowers, red garden (table) beet, parsnip, carrot, radish, cherry (tart and sweet), certain herbs, spices and hops.

TIME OF APPLICATION:

Apply **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** when the annual grasses and volunteer cereals are in the 2 to 6-leaf stage as specified under Application Rates of **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide**. Most effective control is achieved when application is made prior to tillering when annual grasses are small and actively growing.

For suppression or control of quackgrass, apply **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** when the quackgrass is in the 2 to 6-leaf stage and 6 to 15 cm in height. Most effective results are achieved when application is made at the 3 to 5-leaf stage, when the canopy is uniform and actively growing.

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide will be less effective when plants are stressed by lack of moisture, excessive moisture, low-temperature and/or very low relative humidity. Regrowth by tillering may occur if application is made under any of the above stress conditions. In wide row crops, where the canopy may be slow to close, cultivation may be necessary to control grasses that emerge after treatment.

For chickpeas, apply **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** at a maximum of one application per season before the crop reaches the 9 node stage (18 cm height maximum) and when the annual grasses and volunteer cereals are in the 2- to 6-leaf stage.

For dill and fenugreek, apply **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** post-emergence, when dill or fenugreek is in the 3 to 5 leaf stage at a maximum of one application per season.

For Prairie Carnation, apply **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide**, when Prairie Carnation is in the 2- to 5-leaf stage. A maximum of one application may be made per year. For safflower, apply **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide**, when safflower is in the 6 to 8 leaf stage at a maximum of one application per season.

Cranberry is tolerant to **SHADOW RTM** at all stages of growth, however, do not apply

SHADOW RTM between the hook stage and full fruit set.

For dry bulb onions and garlic, apply SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide, when crops are in the 1- to 4-leaf stage.

Apply SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide only to established sweet and tart cherry trees. The pre-harvest interval outlined in the Crop Recommendations table must be followed to avoid excessive crop residues.

All other labelled crops are tolerant to SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide at all stages of growth. However, the pre-harvest interval outlined in the Crop Recommendations table must be followed to avoid excessive crop residues.

APPLICATION RATES OF SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide:

Rates of use are given below to control various grass species. Refer to crop section for the maximum use rate on each crop.

Grass Species	Leaf Stage	Application Rate of SHADOW RTM®	Application Rate of AMIGO® Adjuvant
*Foxtail (green, yellow)	2 to 4	0.125 L/ha	0.5% v/v
Wild oats			
Volunteer cereals (wheat, barley, oats)			
Barnyard Grass	2 to 6	0.125 L/ha	0.5% v/v
Witchgrass			
Fall panicum			
Proso millet			
Volunteer Corn			
Volunteer canary grass			
Wild Oats	2 to 6	0.19 L/ha	0.5% v/v
Volunteer cereals (wheat, barley, oats)			
Foxtail (green, yellow)			
Persian darnel			
Crabgrass (smooth and large)			
Proso millet			
Witchgrass Fall			
panicum			
Barnyard grass			
Volunteer corn			
Volunteer canary grass			
Quackgrass suppression			
Quackgrass control**	2 to 6	0.38 L/ha	1.0% v/v

* SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide applied at

0.125 L/ha for the control of weeds listed in this section of the table should only be applied under the following conditions:

- Good crop stand
- Early application (as in above table, prior to tillering)
- Do not tank-mix with other pesticides
- Do not apply to volunteer winter cereals
- Light to moderate weed infestation
- Adequate moisture and fertility
- Absence of stress, good growing conditions

If any one of the above conditions are not present at the time of application, use 0.19 L/ha rate of **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide**.

** For adequate control of quackgrass, use a minimum spray volume of 100L/ha.

CROP RECOMMENDATIONS:

Crops	Maximum Application Rate of SHADOW RTM	Application Method⁶	Pre-Harvest Interval
Seedling Alfalfa	0.38 L/ha	Ground application only	30 days
Pigeon Pea^{1,2}	0.19 L/ha	Ground and aerial application	75 days

<p>Bean (<i>Lupinus</i> spp.) (includes grain lupin, sweet lupin, white lupin and white sweet lupin); bean (<i>Phaseolus</i> spp.) (includes field bean, kidney bean, lima bean (dry), navy bean, pinto bean, tepary bean); bean (<i>Vigna</i> spp.) (includes adzuki bean, blackeyed pea, catjang, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean); broad bean (fava bean) (<i>Vicia faba</i>); chickpea (garbanzo bean) (<i>Cicer arietinum</i>); guar (<i>Cyamopsis tetragonoloba</i>); lablab bean (hyacinth bean) (<i>Lablab purpureus</i>) ^{1,2}</p>	<p>0.19 L/ha</p>	<p>Ground and aerial application</p>	<p>60 days</p>
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<p>Angelica; balm (lemon balm); basil; borage; burnet; chamomile; catnip; chervil; clary; costmary; culantro (leaf); horehound; hyssop; lavender; lovage; marigold; marjoram (includes sweet or annual marjoram, wild marjoram or oregano and pot marjoram); nasturtium; parsley (dried); pennyroyal; rosemary; rue; sage; summer and winter savory; sweet bay (bay leaf); tansy; tarragon; thyme; wintergreen; woodruff; and wormwood ^{1,2,4,7}</p>	0.19 L/ha	Ground application only	30 days
<p>Anise (anise seed); caraway (black); celery seed; culantro (seed); cumin; fennel [common and Florence (seed)]; juniper berry; lovage (seed); mustard (seed); poppy (seed); and Saffron.</p>	0.19 L/ha	Ground application only	60 days
<p>Cherry (sweet and tart) ^{1, 7, 8} (established trees)</p>	0.38 L/ha	Ground application only	14 days
<p>Highbush Blueberry ^{1, 5, 7}</p>	0.38 L/ha	Ground application only	14 days
<p>Canola</p>	0.38 L/ha	Ground and aerial application	60 days

Carrot ^{4,7}	0.38 L/ha	Ground application only	30 days
Cranberry ^{1,2,7}	0.38 L/ha	Ground application only	30 days
Chive ^{1,7}	0.38 L/ha	Ground application only	30 days
Caraway, Coriander (cilantro) ^{1,3,7}	0.38 L/ha	Ground application only	60 days for seed 30 days for leaves
Dill ^{1,7}	0.38 L/ha	Ground application only	30 days (dillweed leaves) 40 days (dill seed)
Flax (including low linolenic acid varieties)	0.38 L/ha	Ground and aerial application	60 days
Fenugreek ^{1,3,7}	0.38 L/ha	Ground application only	30 days (leaf and seed)
Field Peas	0.38 L/ha	Ground and aerial application	75 days
Hops ^{1,4,7}	0.38 L/ha	Ground application only	21 days
Lentils	0.38 L/ha	Ground and aerial application	60 days
Oriental (Brown) Mustard (condiment and oilseed types)	0.38 L/ha	Ground and aerial application	60 days

Yellow Mustard	0.38 L/ha	Ground and aerial application	60 days
<i>Brassica carinata</i>	0.38 L/ha	Ground and aerial application	60 days
Dry Bulb Onions and Garlic ^{1,7}	0.38 L/ha	Ground application only	45 days
Parsnip ^{4,7}	0.38 L/ha	Ground application only	30 days
Potatoes	0.38 L/ha	Ground and aerial application	60 days
Prairie Carnation ^{1,3,7}	0.19 L/ha	Ground application only	N/A
Radish ^{4,7}	0.38 L/ha	Ground application only	30 days
Red garden (table) beet ^{4,7}	0.38 L/ha	Ground application only	30 days
Safflower	0.38 L/ha	Ground application only	70 days
Soybeans	0.38 L/ha	Ground and aerial application	75 days
Spinach ^{4,7}	0.19 L/ha	Ground application only	14 days
Sunflowers	0.38 L/ha	Ground and aerial application	72 days

1. Apply a maximum of one application per year.
2. NOTE: Varieties of this crop may vary in their tolerance to herbicides, including SHADOW RTM. Since not all crop varieties have been tested for tolerance to SHADOW RTM, first use of SHADOW RTM should be limited to a small area of each variety to confirm tolerance prior to adoption as a general field practice. Additionally, consult your supplier for information on the tolerance of specific varieties to SHADOW RTM.
3. Do not harvest treated Prairie Carnations for human consumption.
4. Apply a maximum of two applications per year. If repeat application is required, allow at least 14 days between first and second application.
5. Apply SHADOW RTM as a broadcast spray directed to the ground.
6. SPRAY VOLUME FOR AERIAL APPLICATION: Apply in 28 to 55 L/ha. Increase spray volumes up to 100L/ha as grass or crop foliage becomes dense.
7. Refer to section "MINOR USES" in this label for additional use instructions.
8. Do not apply SHADOW RTM directly over the top of the sweet and tart cherry trees. Direct the spray at the base of the tree where grassy weeds are growing. If SHADOW RTM is improperly applied, crop injury can occur.

TANK-MIXES:

When applied as a tank-mix combination, read and observe all label directions, including rates, restrictions, and grazing limitations for each product used in the tank-mix. Follow the more stringent label precautionary measures for mixing, loading and applying stated on both product labels.

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide AND BUCTRIL® M:

Flax (including low linolenic acid varieties): SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide may be tank-mixed with BUCTRIL M for control of certain broadleaf and grassy weeds in flax (including low linolenic acid varieties) in one spray operation. Apply in 55 to 110 litres of water per hectare at a pressure of 275 kPa. DO NOT spray this tank-mix on plants under stress. DO NOT spray during periods of hot, humid weather. Follow all precautions, limitations and timing recommendations on the BUCTRIL M label..

Time of Application: Flax (including low linolenic acid varieties) may be treated from 5 cm high to the early bud stage. For best results, apply when flax (including low linolenic acid varieties) is 5 to 10 cm high and weeds are in the seedling stage. If broadleaf weeds and grassy weeds are not in the recommended treatment stage at the same time, then separate applications should be made.

Application Rate: SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide at 0.19 to 0.38 L/ha tank-mixed with BUCTRIL M at 1.0 L/ha and the adjuvant AMIGO at 0.5% to 1.0% v/v.

Weeds Controlled: As listed for **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** used alone, plus certain seedling broadleaf weeds. Refer to the BUCTRIL M label for the broadleaf weeds controlled.

MIXING INSTRUCTIONS:

1. Thoroughly clean the sprayer by flushing the system with water containing detergent.
2. Fill clean spray tank half full with clean water. Start agitation system.
3. If tank-mixing **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** and BUCTRIL M for once-over grass and broadleaf weed control in flax (including low linolenic acid varieties), add the correct amount of BUCTRIL M. Continue to agitate.
4. Add the correct amount of **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide**. Continue to agitate.
5. Add the correct amount of adjuvant AMIGO along with the remaining amount of water necessary to fill the spray tank.
6. Continue to agitate or run the by-pass system.
7. After any break in the spraying operation, agitate thoroughly before spraying again. Check inside the tank to ensure that sprayer agitation is sufficient to re-mix the spray materials. Do not allow the mixture to sit overnight.
8. Immediately after use, thoroughly clean the sprayer by flushing the system with clean water containing detergent.

For disposal of cleaning solution, see section on DISPOSAL.

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide AND CURTAIL® M:

Flax (including low linolenic acid varieties): SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide may be tank-mixed with CURTAIL M for control of certain broadleaf and grass weeds in flax in one spray operation. Apply in a minimum of 100 L/ha spray volume at a pressure of 275 kPa.

Follow all precautions, limitations, restrictions and timing recommendations on the CURTAIL M label.

Time of Application: Flax may be treated from 5 to 15 cm in height. Apply when the grassy weeds are in the 2 to 6 leaf stage and the broadleaf weeds are actively growing. Application to Canada thistle should be made when Canada thistle is between 10 cm and up to the pre-bud stage. If broadleaf weeds and grass weeds are not in recommended treatment stage at the same time, then separate applications should be made.

Application Rate: **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** at 0.19 L/ha tank-mixed with CURTAIL M at 1.5 to 2.0 L/ha and with the adjuvant AMIGO at 0.5% v/v.

Weeds Controlled: Weed claims listed on the **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** label plus weed claims listed on Curtail M label. Refer to the CURTAIL M label for the broadleaf weeds controlled.

Grazing Interval

Do not cut treated crops for feed or graze until 60 days after application.

MIXING INSTRUCTIONS:

1. Thoroughly clean the sprayer by flushing the system with water containing detergent.
2. Fill clean spray tank half full with clean water. Start agitation system.
3. Add the required amount of CURTAIL M to the tank. Continue to agitate.
4. Add the correct amount of SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide. Continue to agitate.
5. Add the correct amount of adjuvant AMIGO along with the remaining amount of water necessary to fill the spray tank.
6. Continue to agitate or run the by-pass system.
7. After any break in the spraying operation, agitate thoroughly before spraying again. Check inside the tank to ensure that sprayer agitation is sufficient to re-mix the spray materials. Do not allow the mixture to sit overnight. In the case of tank mixtures with broadleaf herbicides, settling will occur if agitation is not continuous.
8. If an oil film starts to build up in the tank, drain it and clean tank with strong detergent solution.
9. Immediately after use, thoroughly clean the sprayer by flushing the system with clean water containing detergent.

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide AND MCPA ESTER:

Flax: SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide may be tank-mixed with MCPA ESTER for control of certain broadleaf and grassy weeds in flax in one spray operation. For ground applications, apply in a minimum of 100 L/ha spray volume at a pressure of 275 kPa. For aerial application, apply this tank-mix in a minimum of 30 L/ha spray volume at a pressure of 235 kPa.

NOTE: THIS TANK-MIX MAY NOT BE APPLIED TO LOW LINOLENIC ACID VARIETIES OF FLAX.

Time of Application: Flax may be treated from 5 cm tall to just before the bud stage. Do not apply after the early bud stage. Apply when the grassy weeds are in the 2-6 leaf stage and broadleaf weeds are in the seedling stage and actively growing. If broadleaf weeds and grassy weeds are not in the recommended treatment stage at the same time, then separate applications should be made.

Application Rate: SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide at 0.19 to 0.38 L/ha tank-mixed with MCPA ESTER and the adjuvant AMIGO at 0.5% to 1.0% v/v.

Weeds Controlled: As listed for **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** used alone, plus certain seedling broadleaf weeds. Refer to the MCPA ESTER label for the rates and broadleaf weeds controlled and specific information on flax.

MIXING INSTRUCTIONS:

1. Thoroughly clean the sprayer by flushing the system with water containing detergent.
2. Fill clean spray tank half full with clean water. Start agitation system.
3. Add the correct amount of MCPA ESTER. Continue to agitate.
4. Add the correct amount of **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide**. Continue to agitate.
5. Add the correct amount of adjuvant AMIGO along with the remaining amount of water necessary to fill the spray tank.
6. Continue to agitate or run the by-pass system.
7. After any break in the spraying operation, agitate thoroughly before spraying again. Check inside the tank to ensure that sprayer agitation is sufficient to re-mix the spray materials. Do not allow the mixture to sit overnight.
8. Immediately after use, thoroughly clean the sprayer by flushing the system with clean water containing detergent.

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide AND LONTREL® 360:

Flax (including low linolenic acid varieties): **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** may be tank-mixed with LONTREL 360 for control of certain broadleaf and grass weeds in flax in one spray operation. Apply in a minimum of 100 L/ha spray volume at a pressure of 275 kPa.

Follow all precautions, limitations and timing recommendations on the LONTREL 360 label.

Time of Application: Flax may be treated from 5 cm to 10 cm in height. Apply when the grassy weeds are in the 2 to 6 -leaf stage and the broadleaf weeds are actively growing. Application to Canada thistle should be made when Canada thistle is in the rosette to pre-bud stage of growth. If broadleaf weeds and grass weeds are not in recommended treatment stage at the same time, then separate applications should be made.

Application Rate: **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** at 0.19 L/ha tank-mixed with LONTREL 360 at 0.56 to 0.83 L/ha and with the adjuvant AMIGO at 0.5% v/v.

Weeds Controlled: Wild oats, green foxtail, volunteer barley, volunteer wheat, volunteer oats, wild buckwheat.

Canada thistle	0.56 L LONTREL 360/ha	Season-long control
	0.83 L LONTREL 360/ha	Control extended into following year.

MIXING INSTRUCTIONS: For mixing instructions, refer to **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** and LONTREL 360 tank-mix on canola.

Canola: **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** may be tank-mixed with LONTREL 360 for control of certain broadleaf and grass weeds in canola in one spray operation. Apply in a minimum of 100 L/ha spray volume at a pressure of 275 kPa. Follow all precautions, limitations and timing recommendations on the LONTREL 360 label.

Time of Application: Canola may be treated from the 2 to 6-leaf stage. Apply when the grassy weeds are in the 2 to 6-leaf stage and the broadleaf weeds are actively growing. Application to Canada thistle should be made when Canada thistle is in the rosette to pre-bud stage of growth. If broadleaf weeds and grass weeds are not in recommended treatment stage at the same time, then separate applications should be made.

Application Rate: **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** at 0.19 L/ha tank-mixed with LONTREL 360 at 0.42 to 0.83 L/ha and with the adjuvant AMIGO at 0.5% v/v.

Weeds Controlled: Wild oats, green foxtail, volunteer barley, volunteer wheat, volunteer oats.

Wild Buckwheat	0.56 L LONTREL 360/ha	Season-long control
Canada thistle	0.42 L LONTREL 360/ha	Top growth control to 6 to 8 weeks
	0.56 L LONTREL 360/ha	Season-long control
	0.83 L LONTREL 360/ha	Control into following year.

MIXING INSTRUCTIONS:

1. Thoroughly clean the sprayer by flushing the system with water containing detergent.
2. Fill clean spray tank half full with clean water. Start agitation system.
3. Add the required amount of LONTREL 360 to the tank. Continue to agitate.
4. Add the correct amount of **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide**. Continue to agitate.
5. Add the correct amount of adjuvant AMIGO along with the remaining amount of water necessary to fill the spray tank.
6. Continue to agitate or run the by-pass system.
7. After any break in the spraying operation, agitate thoroughly before spraying again. Check inside the tank to ensure that sprayer agitation is sufficient to re-mix the spray materials. Do not allow the mixture to sit overnight. In the case of tank mixtures with broadleaf herbicides, settling will occur if agitation is not continuous.

8. If an oil film starts to build up in the tank, drain it and clean tank with strong detergent solution.
9. Immediately after use, thoroughly clean the sprayer by flushing the system with clean water containing detergent.

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide AND PURSUIT®:

Field Peas: SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide may be tank-mixed with PURSUIT for control of certain broadleaf and grassy weeds in field peas in one spray operation. Apply in a minimum of 100 litres of water per hectare at a spray pressure of 275 kPa. Follow all precautions, limitations and timing recommendations on the PURSUIT label.

Time of Application: Field peas may be treated up to the sixth (6th) trifoliate leaf stage. Apply when volunteer wheat, volunteer barley, wild oats and green foxtail are in the 2-6 leaf stage. Apply up to the 4-leaf stage for control of broadleaf weeds. If broadleaf weeds and grassy weeds are not in the recommended treatment stage at the same time, then separate applications should be made.

Application Rate: SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide at 0.19 L/ha tank-mixed with PURSUIT at 210 mL/ha and the adjuvant AMIGO at 0.5% v/v.

Weeds Controlled: Wild oats, green foxtail, volunteer barley, volunteer wheat plus the weeds as listed on the PURSUIT label.

MIXING INSTRUCTIONS:

1. Thoroughly clean the sprayer by flushing the system with water containing detergent.
2. Fill clean spray tank half full with clean water. Start agitation system.
3. If tank-mixing SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide and PURSUIT for once over grass and broadleaf weed control in field peas, add the correct amount of PURSUIT. Continue to agitate.
4. Add the required amount of SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide to the tank. Continue to agitate.
5. Add the correct amount of adjuvant AMIGO along with the remaining amount of water necessary to fill the spray tank.
6. Continue to agitate or run the by-pass system.
7. After any break in the spraying operation, agitate thoroughly before spraying again. Check inside the tank to ensure that sprayer agitation is sufficient to re-mix the spray materials. Do not allow the mixture to sit overnight.
8. Immediately after use, thoroughly clean the sprayer by flushing the system with clean water containing detergent.

Imazethapyr Tolerant Canola (e.g. canola varieties with the SMART trait): SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide may be tank-

mixed with **PURSUIT** for control of certain broadleaf and grassy weeds in imazethapyr-tolerant canola varieties in one spray operation. Apply in a minimum of 100 litres of water per hectare at a spray pressure of 275 kPa. Follow all precautions, limitations and timing recommendations on the **PURSUIT** label.

Time of Application: Imazethapyr-tolerant canola varieties may be treated after the crop has developed one (1) fully expanded leaf. Apply when grassy weeds are in the 2 to 6-leaf stage. Apply up to the 4-leaf stage for control of broadleaf weeds.

Application Rate: **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** at 0.19L/ha tank-mixed with **PURSUIT** at 0.105 or 0.21 L/ha and the adjuvant **AMIGO** at 0.5% v/v.

Weeds Controlled: As listed for **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** plus the following additional weeds.

PURSUIT at 0.105 L/ha for control of chickweed, hempnettle, redroot pigweed*, stinkweed, volunteer canola (not imazethapyr-tolerant), wild mustard and wild buckwheat*, in the 1 to 4-leaf stage.

*For the control of light infestations only. For heavy infestations, use the 0.21 L/ha rate of **PURSUIT**.

PURSUIT at 0.21 L/ha for control of weeds as listed on the **PURSUIT** label.

MIXING INSTRUCTIONS: For mixing instructions, refer to **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** and **PURSUIT** tank-mix on field peas.

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide AND MUSTER®:

Canola: **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** may be tank-mixed with **MUSTER** for control of certain broadleaf and grassy weeds in canola in one spray operation. Apply in a minimum of 100 liters of water per hectare at a spray pressure of 275 kPa. Follow all precautions, limitations and timing recommendations on the **MUSTER** label.

Time of Application: Canola may be treated from the 2-leaf stage to the beginning of bolting. Apply when the grassy weeds are in the 2 to 6-leaf stage and when the broadleaf weeds are in the cotyledon to 6-leaf stage. If broadleaf weeds and grassy weeds are not in the recommended treatment stage at the same time, then separate applications should be made.

Application Rate: **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** at 0.19 L/ha tank-mixed with **MUSTER** at 20 or 30 g/ha and the adjuvant

AMIGO at 0.5% v/v.

Weeds Controlled:

Muster at 20 or 30 g/ha: Wild oats, green foxtail, volunteer barley, volunteer oats, volunteer wheat, hempnettle, wild mustard, green smartweed, flixweed (spring seedlings), stinkweed*, and redroot pigweed.

** Stinkweed suppression at the lower rate. Apply to stinkweed in the 1 to 4 leaf stage.*

MIXING INSTRUCTIONS:

1. Thoroughly clean the sprayer by flushing the system with water containing detergent.
2. Fill clean spray tank half full with clean water. Start agitation system.
3. Add the required amount of MUSTER to the tank. Continue to agitate.
4. Once MUSTER is in suspension, add the required amount of **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide**. Continue to agitate.
5. Add the correct amount of adjuvant AMIGO along with the remaining amount of water necessary to fill the spray tank.
6. Continue to agitate or run the by-pass system.
7. On repeat tankloads, prepare a MUSTER/water slurry and add to required water volume in the spray tank prior to adding **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** and AMIGO.
8. After any break in the spraying operation, agitate thoroughly before spraying again. Check inside the tank to ensure that sprayer agitation is sufficient to re-mix the spray materials. Do not allow the mixture to sit overnight.
9. Immediately after use, refer to MUSTER label for appropriate tank cleanout instructions.

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide AND LIBERTY® 150 SN - PRAIRIE PROVINCES AND PEACE RIVER REGION OF BRITISH COLUMBIA ONLY:

Canola: For use on Glufosinate Ammonium tolerant canola varieties only (e.g. varieties or hybrids labelled LIBERTYLINK).

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide may be tank-mixed with LIBERTY 150 SN Herbicide for control of certain broadleaf and grass weeds in Glufosinate Ammonium tolerant canola varieties in one spray operation. For ground application, apply in a minimum of 110 L/ha spray volume at a pressure of 275 kPa. For aerial applications apply this tank-mix in a minimum of 55 L/ha spray volume at a pressure of 300 kPa.

Follow all precautions, limitations and timing recommendations on the LIBERTY 150 SN Herbicide label.

Time of Application: Glufosinate Ammonium tolerant canola varieties may be treated

from the cotyledon stage up to the early bolting stage. Apply when the wild oats, volunteer wheat, volunteer oats and green foxtail are in the 1 to 5 leaf stage. Refer to LIBERTY 150 SN Herbicide label for application timing on all remaining grass and broadleaf weeds for 2.67 or 4.0 L/ha.

Application Rate: SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide at 63 mL/ha tank-mixed with LIBERTY 150 SN Herbicide at 2.67 to 4.0 L/ha and with the adjuvant AMIGO at 0.5% v/v.

Weeds Controlled: Wild oats, green foxtail, volunteer barley, volunteer wheat, volunteer oats plus all remaining grass weeds and broadleaf weeds listed on the LIBERTY 150 SN Herbicide label at the application rates of 2.67 and 4.0 L/ha.

MIXING INSTRUCTIONS:

1. Thoroughly clean the sprayer by flushing the system with water containing detergent.
2. Fill clean spray tank half full with clean water. Start agitation system.
3. Add the required amount of AMIGO adjuvant to the tank. Continue to agitate until thoroughly mixed.
4. STOP agitation. Add the correct amount of LIBERTY 150 SN Herbicide to the spray tank. Start agitation system.
5. Add the correct amount of SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide along with the remaining amount of water necessary to fill the spray tank.
6. Continue to agitate or run the by-pass system and spray out immediately.
7. After any break in the spraying operation, agitate thoroughly before spraying again. Check inside the tank to ensure that sprayer agitation is sufficient to re-mix the spray materials. Do not allow the mixture to sit overnight. In the case of tank mixtures with broadleaf herbicides, settling will occur if agitation is not continuous.
8. If an oil film starts to build up in the tank, drain it and clean tank with strong detergent solution.
9. Immediately after use, thoroughly clean the sprayer by flushing the system with clean water containing detergent.

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide AND LIBERTY® 200 SN - EASTERN CANADA AND BRITISH COLUMBIA ONLY

Canola: For use on Glufosinate Ammonium tolerant canola varieties only (e.g. varieties or hybrids labelled LIBERTY LINK).

SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide label may be tank-mixed with LIBERTY 200 SN Herbicide for control of certain broadleaf and grass weeds in Glufosinate Ammonium tolerant canola varieties in one spray operation. Apply in a minimum of 110 L/ha spray volume at a pressure of 275 kPa. Follow all precautions, limitations and timing recommendations on the LIBERTY 200 SN

Herbicide label.

Time of Application: Glufosinate Ammonium tolerant canola varieties may be treated from the cotyledon stage up to the early bolting stage. Apply when the wild oats, volunteer wheat, volunteer oats and green foxtail are in the 1 to 5 leaf stage. Refer to the LIBERTY 200 SN Herbicide label for application timing on all remaining grass and broadleaf weeds for 2.0 or 2.5 L/ha.

Application Rate: SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide at 63 mL/ha tank-mixed with LIBERTY 200 SN Herbicide at 2.0 to 2.5 L/ha and with the adjuvant AMIGO at 0.5% v/v.

Weeds Controlled: Wild oats, green foxtail, volunteer barley, volunteer wheat, volunteer oats plus all remaining grass weeds and broadleaf weeds listed on the LIBERTY 200 SN Herbicide label at the application rates of 2.0 and 2.5 L/ha.

MIXING INSTRUCTIONS:

1. Thoroughly clean the sprayer by flushing the system with water containing detergent.
2. Fill clean spray tank half full with clean water. Start agitation system.
3. Add the required amount of AMIGO adjuvant to the tank. Continue to agitate until thoroughly mixed.
4. STOP agitation. Add the correct amount of LIBERTY 200 SN Herbicide to the spray tank. Start agitation system.
5. Add the correct amount of SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide along with the remaining amount of water necessary to fill the spray tank.
6. Continue to agitate or run the by-pass system and spray out immediately.
7. After any break in the spraying operation, agitate thoroughly before spraying again. Check inside the tank to ensure that sprayer agitation is sufficient to re-mix the spray materials. Do not allow the mixture to sit overnight. In the case of tank mixtures with broadleaf herbicides, settling will occur if agitation is not continuous.
8. If an oil film starts to build up in the tank, drain it and clean tank with strong detergent solution.
9. Immediately after use, thoroughly clean the sprayer by flushing the system with clean water containing detergent.

MINOR USES

NOTE TO USER:

READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR THE INDICATED SPECIAL USE APPLICATIONS (LISTED BELOW):

The DIRECTIONS FOR USE for this product for the uses described below were developed by persons other than Loveland Products Canada Inc. and accepted for registration by

Health Canada under the User Requested Minor Use Label Expansion program. Loveland Products Canada Inc. itself makes no representation or warranty with respect to performance (efficacy) or crop tolerance (phytotoxicity) claims for this product when used on the crops listed below. Accordingly, the Buyer and User assume all risks related to performance and crop tolerance arising, and agree to hold Loveland Products Canada Inc. harmless from any claims based on efficacy or phytotoxicity in connection with the uses described below.

CROP	WEEDS CONTROLLED	APPLICATION RATE OF:		REMARKS
		SHADOW RTM	AMIGO	
PRAIRIE CARNATION	Annual weeds listed on SHADOW RTM label. Refer to weed/rate chart in this label.	0.19 L/ha	0.5 % v/v	<p>TIME OF APPLICATION:</p> <p>Apply SHADOW RTM post-emergence of weeds and crops.</p> <p>Apply a maximum of one application per year using ground equipment.</p> <p>Apply in a minimum spray volume of 110 L/ha.</p> <p>Do not harvest treated Prairie Carnations for human consumption.</p> <p>Ground application only.</p>

<p>CHERRY (SWEET AND TART)</p> <p>(established trees)</p>	<p>Labelled grassy weeds. Refer to weed/rate chart in this label.</p>	<p>0.19 – 0.38 L/ha</p>	<p>0.5 – 1.0 % v/v</p>	<p>TIME OF APPLICATION: Apply SHADOW RTM to established sweet and tart cherry trees, post-emergence of weeds. Do not apply SHADOW RTM directly over the top of the trees. Direct the spray at the base of the tree where grassy weeds are growing. If SHADOW RTM is improperly applied, crop injury can occur.</p> <p>Observe a PHI of 14 days.</p> <p>Ground application only.</p> <p>Apply a maximum of one application per year using ground equipment.</p> <p>Apply in a minimum spray volume of 100 litres of water per hectare.</p>
<p>HIGHBUSH BLUEBERRY</p>	<p>SHADOW RTM labelled grassy weeds. Refer to weed/rate chart in this label.</p>	<p>0.19-0.38 L/ha</p>	<p>0.5 to 1.0% v/v</p>	<p>TIME OF APPLICATION: Apply SHADOW RTM post-emergence of weeds and crops. Apply a maximum of one application per year using ground equipment. Apply as a broadcast spray directly to the ground. Apply in a minimum spray volume of 100 L/ha. Observe a PHI of 14 days.</p>

CROP	WEEDS CONTROLLED	APPLICATION RATE OF:		REMARKS
		SHADOW RTM	AMIGO	
				Ground application only.
CORIANDER, (Cilantro), CARAWAY	Labelled grassy weeds. Refer to weed/rate chart in this label	0.19-0.38 L/ha Refer to SHADOW RTM + AMIGO weed/rate chart in this label.	0.5-1.0% v/v Refer to SHADOW RTM + AMIGO weed/rate chart in this label.	TIME OF APPLICATION: Apply SHADOW RTM post-emergence of weeds and crop. Apply a maximum of one application per year, using ground equipment. Observe a PHI of 30 days for leaves and 60 days for seed. Ground application only.
DILL	Labelled grassy weeds. Refer to weed/rate chart on this label.	0.19-0.38 L/ha	0.5-1.0% v/v	TIME OF APPLICATION: Apply SHADOW RTM post-emergence of weeds and crop when dill is in the 3-5 leaf stage. Apply a maximum of one application per year using ground equipment. Apply a minimum spray volume of 100 L/ha. Observe a PHI of 30 days for dillweed leaves and a PHI of 40 days for dill seed. Ground application only.

<p>Chive</p>	<p>Labelled grassy weeds. Refer to weed/rate chart in this label</p>	<p>0.19 – 0.38 L/ha Refer to SHADOW RTM + AMIGO weed/rate chart in this label.</p>	<p>0.5 – 1.0 % v/v Refer to SHADOW RTM + AMIGO weed/rate chart in this label.</p>	<p>TIME OF APPLICATION: Apply a maximum of one application per year, post-emergent using ground equipment. Apply in a minimum spray volume of 110 L/ha. Observe a PHI of 30 days. Ground application only.</p>
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<p>Angelica; balm (lemon balm); basil; borage; burnet; chamomile; catnip; chervil; clary; costmary; culantro (leaf); horehound; hyssop; lavender; lovage; marigold; marjoram (includes sweet or annual marjoram, wild marjoram or oregano and pot marjoram); nasturtium; parsley (dried); pennyroyal; rosemary; rue; sage; savory, summer and winter; sweet bay (bay leaf); tansy; tarragon; thyme; wintergreen; woodruff; and wormwood</p>	<p>Labelled grassy weeds. Refer to weed/rate chart in this label.</p>	<p>0.19 L/ha</p>	<p>0.5 % v/v</p>	<p>TIME OF APPLICATION: Apply SHADOW RTM post-emergence of weeds and crop. Apply a maximum of one application per year using ground equipment. Apply as a broadcast spray directed to the ground. Apply in a minimum spray volume of 110 L/ha. Observe a PHI of 30 days. Ground application only.</p>
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<p>Anise (anise seed), caraway (black); celery seed; culantro (seed); cumin; fennel [common and Florence (seed)]; juniper berry; lovage (seed); mustard (seed); poppy (seed); and saffron</p>	<p>Labelled grassy weeds. Refer to weed/rate chart in this label.</p>	<p>0.19 L/ha</p>	<p>0.5 % v/v</p>	<p>TIME OF APPLICATION: Apply SHADOW RTM post-emergence of weeds and crop. Apply a maximum of one application per year using ground equipment. Apply as a broadcast spray directed to the ground. Apply in a minimum spray volume of 110 L/ha. Observe a PHI of 60 days. Ground application only.</p>
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<p>HOPS</p>	<p>Labelled grassy weeds. Refer to weed/rate chart in this label.</p>	<p>0.19-0.38 L/ha</p>	<p>0.5 -1.0% v/v</p>	<p>TIME OF APPLICATION: post-emergence of weeds and crop. Apply a maximum of one application per season, using ground equipment. Apply as a broadcast spray directed to the ground. Apply in a minimum spray volume of 110 litres of water per hectare. Observe a PHI of 21 days. Ground application only</p>
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FENUGREEK	Annual weeds listed on SHADOW RTM label	Refer to SHADOW RTM + AMIGO weed/rate chart in this label.	Refer to SHADOW RTM + AMIGO weed/ rate chart in this label.	<p>TIME OF APPLICATION:</p> <p>Apply SHADOW RTM post-emergent when fenugreek is in the 3 to 5 leaf stage.</p> <p>Apply a maximum of one application per season, using ground equipment.</p> <p>Observe a PHI of 30 days. Do not graze or feed SHADOW RTM – treated fenugreek forage to livestock.</p> <p>Do not use the greens of treated fenugreek as a vegetable for human consumption.</p> <p>Ground application only.</p>
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CROP	WEEDS CONTROLLED	APPLICATION RATE OF:		REMARKS
		SHADOW RTM	AMIGO	
DRY BULB ONIONS and GARLIC	Annual weeds listed on the SHADOW RTM label and suppression of annual bluegrass at the 2-6 leaf stage	0.38 L/ha	0.5% v/v	<p>TIME OF APPLICATION:</p> <p>Apply SHADOW RTM post-emergent when the crop is in the 1- to 4-leaf stage.</p> <p>Apply a maximum of one application per season, using ground equipment.</p> <p>Observe a PHI of 45 days.</p> <p>Ground application only.</p>
SAFFLOWER	Annual weeds listed on SHADOW RTM label	0.19-0.38 L/ha.	0.5-1.0% v/v.	<p>TIME OF APPLICATION:</p> <p>Apply SHADOW RTM post-emergent when safflower is in the 6- to 8-leaf stage. Apply a maximum of one application per season using ground equipment.</p> <p>Apply in a minimum spray volume of 100 litres of water per hectare.</p> <p>Observe a PHI of 70 days.</p> <p>Ground application only.</p>

SPINACH	Annual Weeds listed on SHADOW RTM label	Refer to SHADOW RTM + AMIGO weed/rate chart in this label.	Refer to SHADOW RTM + AMIGO weed/rate chart in this label.	Apply a maximum of two applications per year with 14 days between applications, post emergent by ground application when grassy weeds are in the 2- to 6leaf stage. Observe a PHI of 14 days. Ground application only.
CRANBERRY	Labelled grassy weeds. Refer to weed/rate chart in this label.	0.19-0.38 L/ha	0.5-1.0% v/v	TIME OF APPLICATION: Apply SHADOW RTM post-emergence of weeds and crop. Do not apply between the hook stage and full fruit set. Apply a maximum of one application per year using ground equipment. Apply in a minimum spray volume of 110 L of water /ha. Observe a PHI of 30 days.

RED GARDEN (TABLE) BEET, PARSNIP, CARROT, RADISH	Labelled grassy weeds. Refer to weed/rate chart in this label.	0.19-0.38 L/ha	0.5-1.0% v/v	TIME OF APPLICATION: Apply SHADOW RTM post-emergence of weeds and crop using ground equipment. Apply a maximum of two applications per year. If repeat application is required, allow at least 14 days between first and second application. Do not apply more than 0.38 L/ha (90 grams ai/ha) per crop season. Apply in a minimum spray volume of 110 L/ha. Observe a PHI of 30 days. Ground application only.
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APPLICATION INSTRUCTIONS:

GROUND APPLICATION

Water volume and spray pressure:

For ground application, use sprayers equipped with standard flat fan nozzles. For optimum spray coverage, use nozzles tilted 45° forward.

The use of flood jet or hollow cone nozzles is not recommended, because of uneven and inadequate spray coverage. Thorough and uniform spray coverage over the entire leaf area of the target weeds is necessary for optimum weed control.

Thoroughly clean all screens to prevent nozzle clogging, especially when spray volumes of 55 to 110 L/ha are used.

For ground applications, use spray volumes of 55 to 225 L/ha and a minimum of 275 kPa pressure.

For applications to dense weed infestations or to dense crop canopies, use a minimum of 110 L/ha spray volume at pressures of 275 to 425 kPa. In any situation, ensure the proper rate of AMIGO is maintained as listed on the label under APPLICATION RATES OF **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide**.

For Bean (*Lupinus* spp.) (includes grain lupin, sweet lupin, white lupin and white sweet

lupin); Bean (*Phaseolus* spp.) (includes field bean, kidney bean, lima bean (dry), navy bean, pinto bean, tepary bean); Bean (*Vigna* spp.) (includes adzuki bean, blackeyed pea, catjang, cowpea, Crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean); Broad bean (fava bean) (*Vicia faba*); Chickpea (garbanzo bean) (*Cicer arietinum*); Guar (*Cyamopsis tetragonoloba*); Lablab bean (hyacinth bean) (*Lablab purpureus*); Lentil (*Lens esculenta*); Pea (*Pisum* spp.) (includes field pea); Pigeon pea (*Cajanus cajan*), a minimum spray volume of 110 L/ha is recommended.

AERIAL APPLICATION

Water volume and spray pressure:

Apply **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** alone or in tank mixes (ONLY with the recommended tank mix partners that are registered for aerial use) in no less than 28 L/ha spray volume at a pressure no less than 300 kPa.

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 on this label.

When applying **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** by aircraft, uniform coverage is essential. To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Aerial Use Precautions

- Read and understand the entire label before opening this product. If you have questions, call Loveland Products Canada Inc. at 1-800-328-4678 or obtain technical advice from the distributor or your provincial agricultural representative.
- 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 terrain where there is a potential for surface run-off to enter aquatic systems.
- 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.
- Do not apply during periods of dead calm or when wind velocity and direction pose a risk of spray drift.
- Do not apply when wind speed is greater than 16 km/h at a flying height at the site of application.
- Do not apply with spray droplets smaller than ASAE medium classification.

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 pilots have communication capabilities at each treatment site at the time of application.
- The field crew and the mixer/loaders must wear goggles or face shield, rubber apron, chemical-resistant gloves, rubber boots, long sleeved shirt and long legged pants.
- 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.

Product Specific Precautions:

- Read and understand the entire label before opening this product. If you have questions, call the manufacturer at 1-800-328-4678 or obtain technical advice from the distributor or your provincial agricultural representative.

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) medium 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.

Buffer zones:

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 S572.1) 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 10 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 S572.1) 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.

Spot treatments using hand-held equipment **DO NOT** require a buffer zone.

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) and sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands).

Method of Application	Crop		Buffer Zones (metres) Required for Protection of:		
			Freshwater Habitat of Depths:		Terrestrial habitat
			Less than 1 m	Greater than 1 m	
Field sprayer	All crops		1	1	1
Aerial	Canola, flax (including linoleic acid varieties), field peas, lentils, potatoes, Oriental (brown) mustard (condiment and oil seed types), yellow mustard, soybeans, sunflowers, Brassica carinata, dry bulb onions, garlic.	Fixed wings	5	1	40
		Rotary wing	5	1	35
	Dry common beans, Desi and Kabuli chickpeas, pigeon pea	Fixed wing	1	1	20
		Rotary wing	1	1	20

For tank mixes, consult the labels of the tank-mix partners and observe the largest (most restrictive) buffer zone of the products involved in the tank mixture and apply using the coarsest spray (ASAE) category indicated on the labels for those tank mix partners.

The buffer zones for this product can be modified based on weather conditions and spray equipment configuration by accessing the Buffer Zone Calculator on the Drift Mitigation page of the Pesticides and Pest Management portion of the Canada.ca web site.

For Cherry (sweet and tart):

Use of the following spray methods or equipment DO NOT require a buffer zone: hand-held or backpack sprayer and spot treatment, *inter-row hooded sprayer*, *low-clearance hooded or shielded sprayers that ensure spray drift does not come in contact with orchard crop fruit or foliage*.

For tank mixes, consult the labels of the tank-mix partners and observe the largest (most restrictive) buffer zone of the products involved in the tank mixture and apply using the coarsest spray (ASAE) category indicated on the labels for those tank mix partners.

RESTRICTIONS AND LIMITATIONS:

1. Use only for crops listed on the label.
2. Thorough preplant tillage operations are required to fields where sod or forage grass crops may have grown in the previous year.
3. Take necessary precautions to avoid sprayer overlaps.
4. Rainfall within one hour of application may reduce the effectiveness of the spray.
5. Do not mix or apply **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** with any other additive, pesticide or with fertilizer except as specifically recommended on the label.
6. Allow 4 days between application of **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** and any other chemical not recommended as a tank-mix combination on the label.
7. Do not apply more than 0.38 L/ha (90 grams a.i./ha) per season.
8. Do not use crops for grazing of livestock or green feed following application of **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** until after the appropriate interval as specified in the crop recommendations table has been observed. Do not cut treated crops for forage until the appropriate interval as specified in the crop recommendations table has been observed.
9. **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** may be applied by air for certain crops specified in this label.
10. **DO NOT** enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

HERBICIDE RESISTANCE MANAGEMENT RECOMMENDATIONS: For resistance management, **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** is a Group 1 herbicide. Any weed population may contain or develop plants naturally resistant to **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** and other Group 1 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 **SHADOW RTM Emulsifiable Concentrate Post-Emergence Herbicide** or other Group 1 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 Loveland Products Canada Inc. 1-800-328-4678.

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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