

# SHADOW™ RTM

Notification Change

## EMULSIFIABLE CONCENTRATE POST-EMERGENCE HERBICIDE

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GROUP	<b>1</b>	HERBICIDE
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### CONTAINS CLETHODIM

POST-EMERGENCE HERBICIDE FOR CONTROL OF GRASSES IN CANOLA (including imazethapyr-tolerant varieties), FLAX (including low linolenic acid varieties), FIELD PEAS, LENTILS, DESI and KABULI CHICKPEAS, DRY ONIONS, POTATOES, YELLOW MUSTARD, ORIENTAL (BROWN) MUSTARD (condiment and oilseed types), SOYBEANS, SEEDLING ALFALFA, SUNFLOWERS, and DRY BEANS (Pinto, Black, Great Northern, Red, Pink and Navy)

### AGRICULTURAL

**GUARANTEE: 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: (3 LITRES)**

Viterra, Inc.  
2625 Victoria Avenue  
Regina, SK  
S4T 7T9  
306-569-4411

In case of spills, poisoning or fire, telephone emergency response number 1-800-424-9300 (24 hours a day).

## **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. Avoid spray drift. Avoid contamination of ponds, streams, rivers and desirable vegetation. 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, chemically resistant gloves, rubber boots, long sleeved shirt and long legged pants.

This product contains a petroleum distillate which is moderately to highly toxic to aquatic organisms. Avoid contamination of aquatic systems during application. Do not contaminate these systems through direct application, disposal of waste or cleaning of equipment.

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

## **FIRST AID:**

**If in eyes:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

**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 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.

**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.

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

**TOXICOLOGICAL INFORMATION:** Treat the patient symptomatically. This product contains petroleum distillates. Danger from lung aspiration of petroleum based solvents must be weighed against toxicity when considering emptying stomach.

## **STORAGE AND DISPOSAL**

**STORAGE:** May be stored at any temperature. SHAKE WELL BEFORE USING. Insecticides and fungicides should be segregated from herbicides so as to prevent the possibility of cross-contamination.

### **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. The user assumes the risk to persons or property that arises from any such use of this product.

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# SHADOW™ RTM

Notification Change

**EMULSIFIABLE CONCENTRATE  
POST-EMERGENCE HERBICIDE**

USE WITH  
AMIGO®  
ADJUVANT

**GROUP**

**1**

**HERBICIDE**

## **CONTAINS CLETHODIM**

POST-EMERGENCE HERBICIDE FOR CONTROL OF GRASSES IN CANOLA (including imazethapyr-tolerant varieties), FLAX (including low linolenic acid varieties), FIELD PEAS, LENTILS, DESI and KABULI CHICKPEAS, DRY ONIONS, POTATOES, YELLOW MUSTARD, ORIENTAL (BROWN) MUSTARD (condiment and oilseed types), SOYBEANS, SEEDLING ALFALFA, SUNFLOWERS, and DRY BEANS (Pinto, Black, Great Northern, Red, Pink and Navy)

## **AGRICULTURAL**

**GUARANTEE: 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: (3 LITRES)**

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**GENERAL INFORMATION:****SHADOW RTM Emulsifiable Concentrate Post Emergence Herbicide**

**SHADOW** is a selective post-emergence herbicide for control of a broad range of grasses in canola (including imazethapyr-tolerant varieties), flax (including low linolenic acid varieties), field peas, lentils, Desi and Kabuli chickpeas, dry onions, potatoes, yellow mustard, oriental (brown) mustard (condiment and oilseed types), soybeans, seedling alfalfa, sunflowers and dry beans (Pinto, Black, Great Northern, Red, Pink and Navy).

**SHADOW is to be used only with the adjuvant AMIGO®.**

**SHADOW** 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. Avoid spray drift. Avoid contamination of ponds, streams, rivers and desirable vegetation. 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, chemically resistant gloves, rubber boots, long sleeved shirt and long legged pants.

This product contains a petroleum distillate which is moderately to highly toxic to aquatic organisms. Avoid contamination of aquatic systems during application. Do not contaminate these systems through direct application, disposal of waste or cleaning of equipment.

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

## **FIRST AID:**

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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.

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.

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

**TOXICOLOGICAL INFORMATION:** Treat the patient symptomatically. This product contains petroleum distillates. Danger from lung aspiration of petroleum based solvents must be weighed against toxicity when considering emptying stomach.

## **STORAGE AND DISPOSAL**

**STORAGE:** May be stored at any temperature. SHAKE WELL BEFORE USING. Insecticides and fungicides should be segregated from herbicides so as to prevent the possibility of cross-contamination.

## **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:**

**SHADOW** Emulsifiable Concentrate Post-Emergence Herbicide is to be used only on canola (including imazethapyr-tolerant varieties), flax (including low linolenic acid varieties), field peas, lentils, Desi and Kabuli chickpeas, dry onions, potatoes, yellow mustard, oriental (brown) mustard (condiment and oilseed types), soybeans, seedling alfalfa, sunflowers and dry beans (Pinto, Black, Great Northern, Red, Pink and Navy).

DO NOT APPLY BY AIR.

SHADOW RTM Emulsifiable Concentrate Post Emergence Herbicide

**TIME OF APPLICATION:**

Apply **SHADOW** when the annual grasses and volunteer cereals are in the 2 to 6 leaf stage as specified under Application Rates of **SHADOW**. 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** 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** 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.

Canola (including imazethapyr-tolerant varieties), flax (including low linolenic acid varieties), field peas, lentils, Desi and Kabuli chickpeas, dry onions, potatoes, yellow mustard, oriental (brown) mustard (condiment and oilseed types), soybeans, seedling alfalfa, sunflowers and dry beans (Pinto, Black, Great Northern, Red, Pink and Navy) are tolerant to **SHADOW** at all stages of growth. However, the pre-harvest interval outlined in the Crop Recommendations table must be followed to avoid excessive crop residues.

For Desi and Kabuli chickpeas, apply **SHADOW** 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.

**APPLICATION RATES OF SHADOW:**

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®	Application Rate of Adjuvant AMIGO®
*Foxtail (green, yellow) Wild oats Volunteer cereals (wheat, barley, oats)	2-4	0.125 L/ha	0.5% v/v
Barnyard Grass Witchgrass Fall panicum Proso millet Volunteer Corn Volunteer canary grass	2-6	0.125 L/ha	0.5% v/v
Wild Oats 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	2-6	0.19 L/ha	0.5% v/v
Quackgrass control	2-6	0.38 L/ha	1.0% v/v

\* **SHADOW** 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~~. SHADOW RTM Emulsifiable Concentrate Post Emergence Herbicide

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### **CROP RECOMMENDATIONS:**

<b>Crops</b>	<b>Maximum Application Rate of SHADOW</b>	<b>Pre-Harvest Interval</b>
Canola	0.38 L/ha	60 days
Flax (including low linolenic acid varieties)	0.38 L/ha	60 days
Field Peas	0.38 L/ha	75 days
Lentils	0.38 L/ha	60 days
Desi and Kabuli Chickpeas	0.19 L/ha	60 days
Dry Onions	0.38 L/ha	45 days
Potatoes	0.38 L/ha	60 days
Yellow Mustard	0.38 L/ha	60 days
Oriental (Brown) Mustard (condiment and oilseed types)	0.38 L/ha	60 days
Soybeans	0.38 L/ha	75 days
Seedling Alfalfa	0.38 L/ha	30 days
Sunflowers	0.38 L/ha	72 days
Dry Beans (Pinto, Black, Great Northern, Red, Pink and Navy)	0.19 L/ha	60 days

## TANK-MIXES:

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### SHADOW AND BUCTRIL® M:

SHADOW RTM Emulsifiable Concentrate Post Emergence Herbicide

**Flax (including low linolenic acid varieties):** ~~SHADOW~~ 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 - 110 litres of water per hectare at a spray 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. The most stringent label precautions for any individual pesticide product in a tank-mix should be used.

**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 cm 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~~ at 0.19 - 0.38 L/ha tank-mixed with BUCTRIL M at 1.0 L/ha and the adjuvant AMIGO at 0.5% - 1.0% v/v.

**Weeds Controlled:** As listed for ~~SHADOW~~ 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~~ 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~~. 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 AND CURTAIL® M:**

**Flax (including low linolenic acid varieties):** **SHADOW** 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 2-6 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** 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** 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**. 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 AND MCPA ESTER:

SHADOW RTM Emulsifiable Concentrate Post Emergence Herbicide

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**Flax:** ~~SHADOW~~ may be tank-mixed with MCPA ESTER for control of certain broadleaf and grassy weeds in flax in one spray operation. Apply in a minimum of 100 L/ha spray volume at a pressure of 275 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~~ at 0.19 - 0.38 L/ha tank-mixed with MCPA ESTER and the adjuvant AMIGO at 0.5% - 1.0% v/v.

**Weeds Controlled:** As listed for ~~SHADOW~~ 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~~. 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 AND LONTREL® 360:**

**Flax (including low linolenic acid varieties):** **SHADOW** 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 2-6 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** 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** and LONTREL 360 tank-mix on canola.

**Canola:** **SHADOW** 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** 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 - 8 weeks
	0.56 L LONTREL 360/ha	Season-long control
	0.83 L LONTREL 360/ha	Control into following year.

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### MIXING INSTRUCTIONS:

#### SHADOW RTM Emulsifiable Concentrate Post Emergence Herbicide

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~~. 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 AND PURSUIT®:**

## SHADOW RTM Emulsifiable Concentrate Post Emergence Herbicide

**Field Peas:** **SHADOW** 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 (6<sup>th</sup>) 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** 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** 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** 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** 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** 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** 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** and **PURSUIT** tank-mix on field peas.

## SHADOW AND MUSTER® :

SHADOW RTM Emulsifiable Concentrate Post Emergence Herbicide

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**Canola:** ~~SHADOW~~ 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 litres 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~~ 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~~. 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~~ 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 AND LIBERTY®:

Notification Change

SHADOW RTM Emulsifiable Concentrate Post Emergence Herbicide

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

**SHADOW** may be tank-mixed with LIBERTY 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 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 - 5 leaf stage. Refer to LIBERTY label for application timing on all remaining grass and broadleaf weeds for 2.7 or 3.3 L/ha.

**Application Rate:** **SHADOW** at 0.06 L/ha tank-mixed with LIBERTY at 2.7 to 3.3 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 label at the application rates of 2.7 and 3.3 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** to the spray tank. Start agitation system.
5. Add the correct amount of **SHADOW** 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.

**FOR USE ON DRY BEANS (PINTO, BLACK, GREAT NORTHERN, RED, PINK AND NAVY):**

For control of weeds listed on the ~~SHADOW Emulsifiable Concentrate Post-Emergence Herbicide~~ label.

**Time of application:** Apply a maximum of one application per year, post-emergent by ground application. Apply ~~SHADOW~~ at 0.125 to 0.19 L/ha with the adjuvant Amigo at 0.5% v/v when grassy weeds are in the 2-6 leaf stage.

**NOTE TO BUYER/USER: READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR USE ON DRY ONIONS:**

The DIRECTIONS FOR USE for this product for use on dry onions were developed by persons other than Arysta LifeScience Corporation. and accepted for registration by Health Canada under the User Requested Minor Use Label Expansion program. Arysta LifeScience Corporation itself makes no representation or warranty with respect to performance (efficacy) or crop tolerance (phytotoxicity) claims for this product when used on dry onions.

Accordingly, the buyer and user assume all risks related to performance and crop tolerances arising, and agree to hold Arysta LifeScience Corporation harmless from any claims based on efficacy or phytotoxicity in connection with the use on dry onions.

**DIRECTIONS FOR USE:****FOR USE ON DRY ONIONS**

For suppression of annual bluegrass and control of other annual weeds listed on the ~~SHADOW Emulsifiable Concentrate Post-Emergence Herbicide~~ label.

**TIME OF APPLICATION:** Apply ~~SHADOW~~ post-emergent when the crop is in the 1-4 leaf stage. Apply by ground application. One application per year. Observe a PHI of 45 days.

<b>Grass Species</b>	<b>Leaf Stage</b>	<b>Application Rate of <del>SHADOW</del><sup>®</sup></b>	<b>Application Rate of Adjuvant <del>AMIGO</del><sup>®</sup></b>
Suppression of annual bluegrass	2-6	0.38 L/ha	0.5% v/v

## SPRAYING INSTRUCTIONS:

### DO NOT APPLY BY AIR

#### 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 water volumes of 55 to 110 L/ha are used.

In general, use water 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 litres of water per hectare 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**.

SHADOW RTM Emulsifiable Concentrate Post Emergence Herbicide

Notification Change

### 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 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** 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** 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. DO NOT APPLY BY AIR. **Use ground equipment only.**
10. Overspray or drift to important wildlife habitats such as shelter belts, wetlands, sloughs or dry slough borders, woodlots, vegetated ditchbanks and other cover on the edges of fields should be avoided. Leave a 15 meter buffer zone between the last spray swath and the edge of any of these habitats.

**HERBICIDE RESISTANCE MANAGEMENT RECOMMENDATIONS:**

For resistance management, **SHADOW** is a Group 1 herbicide. Any weed population may contain or develop plants naturally resistant to **SHADOW** 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** 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 Viterro Inc. at 1-306-569-4411.

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

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