

2023-04-14  
2023-0745

**ADAMA GLUFOSINATE 150 SL**

**GROUP 10 HERBICIDE**

**COMMERCIAL**

**SOLUTION**



**EYE AND SKIN IRRITANT**

**REGISTRATION NUMBER 34833 PEST CONTROL PRODUCTS ACT**

**ACTIVE INGREDIENT:** glufosinate-ammonium 150 g/L

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

**For emergency medical help call PROPBARMA at 1.877.250.9291 (24 hours a day)  
For spill, leak or fire call INFOTRAC at 1.800.535.5053 (24 hours a day)**

ADAMA Agricultural Solutions Canada Ltd.  
300 – 191 Lombard Avenue  
Winnipeg, Manitoba R3B 0X11  
1-855-264-6262

**NET CONTENTS: 1 – 1000 L**

## **PRECAUTIONS:**

**KEEP OUT OF REACH OF CHILDREN.** Harmful or fatal if absorbed through the skin. Harmful if swallowed. Causes eye irritation. DO NOT get in eyes, on skin or on clothing. Avoid breathing spray mist. Wash thoroughly after using and before eating, drinking or smoking.

**Protective Clothing and Equipment:** Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes, and protective eyewear (goggles or face shield) during mixing, loading, application, clean-up and repair. Gloves and protective eyewear (goggles or face shield) are not required during application within a closed cab and/or cockpit.

**Restricted-entry Restriction:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.

Apply only to agricultural crops when the potential for drift to areas of human habitation and 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.

If this pest control product is to be used on a commodity that may be exported and you require information regarding Maximum Residue Limits for an importing country, please contact ADAMA Agricultural Solutions Canada Ltd. at 1-855-264-6262.

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

**If swallowed:** Call a poison control center 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 center or doctor. Do not give anything by mouth to an unconscious person.

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

**If on skin or clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center 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 center or doctor for treatment advice.

## **TOXICOLOGICAL INFORMATION:**

**Note to Physician:** If this product is ingested, endotracheal intubation and gastric lavage should be performed as soon as possible, followed by charcoal and sodium sulfate administration.

## **ENVIRONMENTAL PRECAUTIONS:**

TOXIC to aquatic organisms and non-target terrestrial plants. Observe spray buffer zones specified under DIRECTIONS FOR USE. Avoid spray drift to susceptible plants and USE ONLY FOR RECOMMENDED PURPOSES AND AT RECOMMENDED RATES.

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 filter

strip between the treated area and the edge of the water body.

**STORAGE:**

CANNOT be stored below freezing.

If stored for 1 year or longer, shake well before using.

Do not use or store in or around the home.

Keep in original container during storage.

Store this product away from food or feed.

**DISPOSAL:**

**Recyclable Container Disposal (less than 23 liters):**

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.

**Returnable Container Disposal:**

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

**Refillable Container Disposal:**

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

**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 cleanup of spills.

**Disposal of Unused Spray Solution:**

If any spray solution remains in the tank after spraying is finished, it should be sprayed on the perimeter of the area just sprayed, away from water supplies, ditches, and irrigation canals.

**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.

**ADAMA GLUFOSINATE 150 SL**

**GROUP 10 HERBICIDE**

**COMMERCIAL**

**SOLUTION**



**EYE AND SKIN IRRITANT**

**REGISTRATION NUMBER 34833 PEST CONTROL PRODUCTS ACT**

**ACTIVE INGREDIENT:** glufosinate-ammonium 150 g/L

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

**For emergency medical help call PROPBARMA at 1.877.250.9291 (24 hours a day)  
For spill, leak or fire call INFOTRAC at 1.800.535.5053 (24 hours a day)**

ADAMA Agricultural Solutions Canada Ltd.  
300 – 191 Lombard Avenue  
Winnipeg, Manitoba R3B 0X11  
1-855-264-6262

**NET CONTENTS: 1 – 1000 L**

## ADAMA GLUFOSINATE 150 SL

<i>Table of Contents:</i>		<i>Section Number:</i>
<b>GENERAL INFORMATION</b>	The Product	1
<b>SAFETY AND HANDLING</b>	Precautions, Protective Clothing and Equipment	2
	First Aid and Toxicological Information	3
	Environmental Precautions	4
	Storage	5
	Disposal	6
<b>DIRECTIONS FOR USE</b>	<b>POST EMERGENT USE</b>	
	Crops, Weeds, Timing and Rates	7
	Tank Mixes	8
	Primocane Control in Raspberry	9
	<b>DESICCATION USE</b>	
	Crops, Instructions and Rates	10
	<b>GENERAL INSTRUCTIONS</b>	
	Herbicide Resistance Management	
	Recommendations	11
	Application Instructions and Precautions	12
	Mixing Instructions	13
	Sprayer Cleanup	14
	Livestock Feeding and Preharvest Intervals	15
	Notices	16

## GENERAL INFORMATION

### Section 1: The Product

- ADAMA GLUFOSINATE 150 SL provides control of a broad spectrum of grassy and broadleaf weeds in Canola and Soybean varieties or hybrids that are specially developed to be tolerant to glufosinate ammonium.
- ADAMA GLUFOSINATE 150 SL is registered for use on glufosinate ammonium tolerant Canola and Soybean varieties or hybrids.
- ADAMA GLUFOSINATE 150 SL may also be applied to glufosinate ammonium tolerant lines or varieties grown for seed production.
- For hybrid seed production in canola, ADAMA GLUFOSINATE 150 SL may be used to remove segregating wild type plants within the female population. Two applications are required to do this.
- Glufosinate ammonium tolerant Corn can be used as separator rows in hybrid Canola seed production, but must be destroyed and not used for food or feed.
- ADAMA GLUFOSINATE 150 SL may be used as a harvest aid (desiccant) on Alfalfa grown for seed.
- ADAMA GLUFOSINATE 150 SL will desiccate weeds that are present in the field at time of application when used as a harvest aid.
- ADAMA GLUFOSINATE 150 SL may also be used for primocane control in established Raspberries.

## SAFETY AND HANDLING

### Section 2: Precautions and Protective Clothing and Equipment

#### PRECAUTIONS:

**KEEP OUT OF REACH OF CHILDREN.** Harmful or fatal if absorbed through the skin. Harmful if swallowed. Causes eye irritation. **DO NOT** get in eyes, on skin or on clothing. Avoid breathing spray mist. Wash thoroughly after using and before eating, drinking or smoking.

If this pest control product is to be used on a commodity that may be exported and you require information regarding Maximum Residue Limits for an importing country, please contact ADAMA Agricultural Solutions Canada Ltd. at 1-855-264-6262.

#### Protective Clothing and Equipment

Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes, and protective eyewear (goggles or face shield) during mixing, loading, application, clean-up and repair. Gloves and protective eyewear (goggles or face shield) are not required during application within a closed cab and/or cockpit.

#### Restricted-entry Restriction

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 24 hours.

Apply only to agricultural crops when the potential for drift to areas of human habitation and 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.

### **Section 3: First Aid and Toxicological Information**

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

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

**If 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 treatment advice.

#### **TOXICOLOGICAL INFORMATION:**

**Note to Physician:** If this product is ingested, endotracheal intubation and gastric lavage should be performed as soon as possible, followed by charcoal and sodium sulfate administration.

### **Section 4: Environmental Precautions**

TOXIC to aquatic organisms and non-target terrestrial plants. Observe spray buffer zones specified under DIRECTIONS FOR USE.

Avoid spray drift to susceptible plants and USE ONLY FOR RECOMMENDED PURPOSES AND AT RECOMMENDED RATES.

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 filter strip between the treated area and the edge of the water body.

### **Section 5: Storage**

CANNOT be stored below freezing.

If stored for 1 year or longer, shake well before using.

Do not use or store in or around the home.

Keep in original container during storage.

Store this product away from food or feed.

## **Section 6: Disposal**

### **Recyclable Container Disposal (less than 23 litres):**

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.

### **Returnable Container Disposal:**

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

### **Refillable Container Disposal:**

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

### **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 cleanup of spills.

### **Disposal of Unused Spray Solution:**

If any spray solution remains in the tank after spraying is finished, it should be sprayed on the perimeter of the area just sprayed, away from water supplies, ditches, and irrigation canals.

## **DIRECTIONS FOR USE**

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.

## **POST EMERGENT USE**

## **Section 7: Crops, Weeds, Timing and Rates**



## **CANOLA – EASTERN CANADA AND COASTAL BC**

- ADAMA GLUFOSINATE 150 SL is registered for aerial and ground application to glufosinate ammonium tolerant Canola varieties or hybrids.
- **To assure crop safety and optimal herbicide performance, only use ADAMA GLUFOSINATE 150 SL on glufosinate ammonium tolerant Canola grown from certified seed.**
- **Application of ADAMA GLUFOSINATE 150 SL to non-tolerant Canola varieties or hybrids or other non-tolerant crops will result in severe crop injury or death of the crop.**
- Apply ADAMA GLUFOSINATE 150 SL from the cotyledon stage up until, but prior to, the early bolting stage of Canola.
- Slight discoloration of the Canola may be visible after application. This effect is temporary and will not influence crop growth, maturity or yield.
- **For application to glufosinate ammonium and glyphosate tolerant canola varieties or hybrids** ADAMA GLUFOSINATE 150 SL should be applied in a sequential program with glyphosate for effective weed control. Tank-mixing ADAMA GLUFOSINATE 150 SL with glyphosate may result in reduced control on certain weed species.
- ADAMA GLUFOSINATE 150 SL may also be applied to glufosinate ammonium tolerant Canola lines or varieties grown for seed production.
- **For hybrid seed production** - Two applications are required to remove the segregating wild type plants. The first application should occur when the Canola is in the 2-4 leaf stage, the second application when the Canola plants are in the 4-6 leaf stage. All applications of ADAMA GLUFOSINATE 150 SL for hybrid seed production should be made at 3.33 L/ha.
- Follow use instructions for canola and general instructions in this label.

## **CANOLA - PRAIRIE PROVINCES AND INTERIOR OF BRITISH COLUMBIA (INCLUDING THE PEACE RIVER REGION) ONLY**

ADAMA GLUFOSINATE 150 SL is registered for aerial and ground application to glufosinate ammonium tolerant Canola varieties or hybrids grown in the Prairie Provinces and Interior of British Columbia (Including the Peace River region) only.

- **To assure crop safety and optimal herbicide performance, only use ADAMA GLUFOSINATE 150 SL on glufosinate ammonium tolerant Canola grown from certified seed.**
- **Application of ADAMA GLUFOSINATE 150 SL to non-tolerant Canola varieties or hybrids or other non-tolerant crops will result in severe crop injury or death of the crop.**
- Apply ADAMA GLUFOSINATE 150 SL from the cotyledon stage up until, but prior to, the early bolting stage of Canola.
- Slight discoloration of the Canola may be visible after application. This effect is temporary and will not influence crop growth, maturity or yield.
- ADAMA GLUFOSINATE 150 SL may also be applied to glufosinate ammonium tolerant Canola lines or varieties grown for seed production.
- **For hybrid seed production** - Two applications are required to remove the segregating wild type plants. The first application should occur when the Canola is in the 2-4 leaf stage, the second application when the Canola plants are in the 4-6 leaf stage. All applications of

ADAMA GLUFOSINATE 150 SL for hybrid seed production should be made at 3.33 L/ha.

- Follow use instructions for canola and general instructions in this label.

**SOYBEAN**

- ADAMA GLUFOSINATE 150 SL is registered for aerial and ground application to glufosinate ammonium tolerant Soybean varieties
- **Application of ADAMA GLUFOSINATE 150 SL to non-tolerant Soybean varieties or other non-tolerant crops will result in severe crop injury or death of the crop.**
- Apply ADAMA GLUFOSINATE 150 SL at 2 L to 3.33 L/ha from the cotyledon to the flowering stage of the crop.

**SUSCEPTIBLE WEEDS:** ADAMA GLUFOSINATE 150 SL has an effect on all weeds and crops except for those crops which are developed to be tolerant to applications of ADAMA GLUFOSINATE 150 SL. The following weeds are susceptible to application of ADAMA GLUFOSINATE 150 SL. Best control will be obtained when ADAMA GLUFOSINATE 150 SL is applied in the recommended leaf stages.

WEED	RECOMMENDED WEED LEAF STAGE								RATE
	1	2	3	4	5	6	7	8	
Cow Cockle	-----								1.33 L/ha
Green Foxtail	-----  Maximum 3 tillers								

WEED	RECOMMENDED WEED LEAF STAGE								RATE
	1	2	3	4	5	6	7	8	
Barnyard Grass	-----								2 L/ha
Lady's-thumb	-----								
Lamb's-quarters	-----								
Russian Thistle	Up to 8 cm height								
Smartweed	-----								
Stinkweed	-----								
Volunteer Flax	Up to 6 cm height								
Wild Mustard	-----								

WEED	RECOMMENDED WEED LEAF STAGE								RATE
	1	2	3	4	5	6	7	8	
Canada Thistle <sup>1</sup>	Up to 10 cm height								2.67 L/ha
Common Chickweed	-----  Leaf Pairs								
Hemp-nettle	-----  Leaf Pairs								
Kochia	Up to 8 cm height								
Perennial Sow Thistle	-----								

Quackgrass <sup>1</sup>	-----	
Redroot Pigweed	-----	
Round-leaved Mallow	-----	
Scentless Chamomile	Up to 10 cm height	
Shepherd's-purse	-----	
Volunteer Barley <sup>2</sup>	-----	Maximum 2 tillers
Volunteer Wheat	-----	Maximum 2 tillers
Wild Buckwheat	-----	

WEED	RECOMMENDED WEED LEAF STAGE								RATE
	1	2	3	4	5	6	7	8	
Cleavers	-----	Whorls							3.33 L/ha
Dandelion	1-15 cm rosette								
Flixweed	Up to 10 cm height								
Hemp-nettle	-----	Leaf Pairs							
Quackgrass <sup>3</sup>	-----								
Stork's-bill	-----								
Wild Oats	-----	Maximum 2 tillers							

WEED	RECOMMENDED WEED LEAF STAGE								RATE
	1	2	3	4	5	6	7	8	
<b>Heavy Populations</b>									
Canada Thistle <sup>1</sup>	Up to 10 cm height								
Quackgrass <sup>1</sup>	-----								
Volunteer Barley <sup>2</sup>	-----	Maximum 2 tillers							
Volunteer Wheat	-----	Maximum 2 tillers							
Wild Buckwheat	-----								

WEED	RECOMMENDED WEED LEAF STAGE								RATE
	1	2	3	4	5	6	7	8	
Canada Thistle <sup>4</sup>	Up to 10 cm height								4 L/ha
Quackgrass <sup>5</sup>	-----								

<sup>1</sup> Top Growth Suppression Only  
<sup>2</sup> Suppression Only  
<sup>3</sup> Improved Top Growth Control  
<sup>4</sup> Better Top Growth Suppression

## <sup>5</sup> Season Long Control for Heavy Populations

### **SECOND APPLICATION – CANOLA**

- A second application of ADAMA GLUFOSINATE 150 SL can be made to fields treated initially with up to 4.0 L/ha if new weed germination or growth is present.
- A first application of up to 4 L/ha may be followed by a second application of up to 3.33 L/ha,

### **OR**

A first application of up to 3.33 L/ha may be followed by a second application of up to 4 L/ha.

- **Do not apply more than a total of 7.33 L/ha per year.**
- Apply when the new weed growth is in the correct leaf stage and up until, but prior to, the bolting stage of Canola.

### **SECOND APPLICATION - SOYBEAN**

- A second application of ADAMA GLUFOSINATE 150 SL can be made to Soybeans treated initially with up to 3.33 L/ha if new weed germination or growth is present. Apply when the new weed growth is in the correct leaf stage and up to the maximum leaf stage of the crop.
- Do not apply beyond the flowering stage of Soybeans.
- Do not apply more than a total of 6.67 L/ha in one season.

### **Use of Corn separator rows in hybrid Canola seed production**

- ADAMA GLUFOSINATE 150 SL is registered for use on glufosinate ammonium tolerant Corn varieties or hybrids when used as separator rows in hybrid Canola seed production.
- Corn should be seeded at 20,000 – 30,000 plants/ha.
- Row spacing for glufosinate ammonium tolerant Corn should be 18-23 cm.
- Note: Corn must be destroyed and not used for food or feed.

## **Section 8: Tank Mixes**

- Do not tank mix ADAMA GLUFOSINATE 150 SL with herbicides, fertilizers or chemical additives unless recommended on this label.
- This product may be tank mixed with a fertilizer, a supplement, or with registered pest control products, whose labels also allow tank mixing, provided the entirety of both labels, including Directions For Use, Precautions, Restrictions, Environmental Precautions, and Spray Buffer Zones are followed for each product. In cases where these requirements differ between the tank mix partner labels, the most restrictive label must be followed. Do not tank mix products containing the same active ingredient unless specifically listed on this label.
- In some cases, tank mixing pest control products can result in reduced pesticide efficacy or increased host crop injury. The user should contact ADAMA Agricultural Solutions Canada Ltd. at 1-855-264-6262 for information before applying any tank mix that is not

specifically recommended on this label.

- When tank-mixes are permitted, read and observe all label directions, including rates and restrictions for each product used in the tank-mix. Follow the more stringent label precautionary measures for mixing, loading and applying stated on all product labels.
- For enhanced activity ADAMA GLUFOSINATE 150 SL may be tank mixed with the following products:

## CANOLA

TANK PRODUCT	MIX RATE	DIRECTIONS
Facet® L + Merge®	0.28 L/ha + 0.5 - 1.0 L/ha	For enhanced and more consistent control of cleavers, apply ADAMA GLUFOSINATE 150 SL at a rate of 3.33 L/ha plus Facet® L at 0.28 L/ha. Apply in 100 L/ha of water with Merge® Adjuvant at a rate of 0.5 to 1 L/ha. Application should be made from the 2 to 6 true leaf stage of the canola crop.

## Section 9: Primocane Control in Raspberry

Apply ADAMA GLUFOSINATE 150 SL in a minimum of 330 L/ha of water. Use a combination of spray pressures and nozzles, which will provide small droplet sizes and thorough coverage.

CROP	RECOMMENDATIONS	RATE
RASPBERRY (established Raspberries only)	ADAMA GLUFOSINATE 150 SL is recommended for the control of primocanes in established Raspberries. Apply when shoots are about 10-20 cm in height. DO NOT apply to immature or weak plantings.	<b>BROADCAST RATE</b> 6.67 L/ha
		<b>BANDED RATE</b> Adjust the Broadcast application rate per hectare proportional to the width of the band applied. Use the formula to calculate the banded rate per hectare:
		<b>FORMULA TO CALCULATE THE BANDED RATE PER HECTARE:</b> Banded rate per hectare = (Band width ÷ Row width) x Broadcast Rate Example: 3.05 metre row spacing and 0.61 metre band width (0.61 M ÷ 3.05 M) x 6.67 L/ha = 1.33 L/ha band rate

**Caution:** Avoid contact of the spray with desirable canes, plants and vegetation.

## DESICCATION USE

## Section 10: Crops, Instructions and Rate

- ADAMA GLUFOSINATE 150 SL may be applied for desiccation, by ground or air, to Alfalfa (grown for seed).
- ADAMA GLUFOSINATE 150 SL will also desiccate weeds, which are present in the field at time of application (Wild Buckwheat may not be completely desiccated).
- Desiccation of crops and weeds will be best when environmental conditions are favourable (warm temperatures, good moisture conditions, high humidity).

CROP	INSTRUCTIONS	RATE
ALFALFA (grown for seed)	Apply ADAMA GLUFOSINATE 150 SL at 50-75% pod turn (brown) stage. Do NOT apply more than once per year.	2.7 L/ha

**Note:** DO NOT tank mix ADAMA GLUFOSINATE 150 SL with pesticides, fertilizers or chemical additives unless recommended on this label.

## GENERAL INSTRUCTIONS

### Section 11: Herbicide Resistance Management Recommendations

For resistance management, ADAMA GLUFOSINATE 150 SL is a Group 10 herbicide. Any weed population may contain or develop plants naturally resistant to ADAMA GLUFOSINATE 150 SL and other Group 10 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 ADAMA GLUFOSINATE 150 SL or other Group 10 herbicides within a growing season (sequence) or among growing seasons 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. To delay resistance, the less resistance-prone partner should control the target weed(s) as effectively as the more resistance-prone partner.
- Herbicide use should be based on an integrated weed management program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage (or other mechanical control methods), cultural (for example, higher crop seeding rates; precision fertilizer application method and timing to favour the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- Monitor weed populations after herbicide application for signs of resistance development (for example, only one weed species on the herbicide label not controlled). If resistance is suspected, prevent weed seed production in the affected area if possible by an alternative herbicide from a different group. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.

- Have suspected resistant weed seeds tested by a qualified laboratory to confirm resistance and identify alternative herbicide options.
- 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 ADAMA Agricultural Solutions Canada Ltd. at 1-855-264-6262.

## Section 12: Application Instructions and Precautions

### APPLICATION INSTRUCTIONS:

- The speed of action of ADAMA GLUFOSINATE 150 SL is influenced by environmental factors. At cool temperatures (below 10° C), poor moisture and low humidity, the speed of action may be reduced. Generally, visual symptoms appear 2-4 days after application.
- For best results, apply to emerged, young, actively growing weeds. Weeds that emerge after application will not be controlled.
- ADAMA GLUFOSINATE 150 SL will have an effect on weeds that are larger than the recommended leaf stage; however speed of activity and control may be reduced.
- ADAMA GLUFOSINATE 150 SL works primarily as a contact herbicide. Thorough coverage of the weeds to be controlled, or the crop to be desiccated, is essential.
- When a rate range is given the higher rate should be utilized:
  1. when the weed or crop growth is dense;
  2. when the weeds are large and/or mature - i.e., advanced leaf stages and plant height;
  3. when the environmental conditions are cool and dry.
 Refer to Section 7 for weeds controlled.

### Ground Application Instructions:

- Ensure that all circuits (pipes, booms etc.) have the correct ADAMA GLUFOSINATE 150 SL / water concentration before application is started.
- Apply ADAMA GLUFOSINATE 150 SL in a minimum of 110 L/ha of water, at a pressure of 275 kPa and at a ground speed of 6-8 kph. If check valves are used, apply at 310 kpa. The use of 80° or 110° flat fan nozzles is highly recommended for optimum spray coverage and canopy penetration.
- Application of the spray at a 45° angle forward will result in better spray coverage. Refer to Sections 7, 8 (Post-emergent) and 10 (Desiccation) for the correct rate and timing of application.
- **For desiccation uses only**, where the crop canopy is dense or weed growth is heavy, achieve better spray coverage with higher spray volumes. Under these conditions, apply in a minimum of 170-220 L/ha of water. Refer to Aerial Application for appropriate aerial water volumes.

### Aerial Application Instructions:

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

- Label rates, conditions and precautions are product specific. Read and understand the entire label before opening this product. Apply only at the rate recommended for aerial application on this label. Where no rate for aerial application appears for the specific use, this product cannot be applied by any type of aerial equipment.
- Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices.
- When applying ADAMA GLUFOSINATE 150 SL by aircraft, uniform spray coverage is essential. Applicators are required to use the correct combination of spray nozzle tips, nozzle placement and spray pressures which will provide a coarse droplet size distribution with a volume mean diameter greater than 350 microns. Do not use raindrop nozzles. To avoid streaked, uneven or overlapped application, use appropriate marking devices.
- **Post-emergent Use in Glufosinate Ammonium Tolerant Canola and Soybean Water Volume:** Apply ADAMA GLUFOSINATE 150 SL in a minimum of 55 L/ha of water only.
- **Desiccation Use Only Water Volume Range:** If the crop canopy is dense or weed growth is heavy, achieve better spray coverage with higher spray volumes. Under these conditions, if using aerial application, apply ADAMA GLUFOSINATE 150 SL in a minimum of 33-55 L/ha of water.

#### USE PRECAUTIONS

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

#### APPLICATION PRECAUTIONS

- Weed control may be reduced when heavy dew, fog or mist is present at the time of application.
- Uniform, thorough spray coverage is important to achieve consistent weed control.
- Crop injury may result if ADAMA GLUFOSINATE 150 SL is applied to a crop stressed by severe weather conditions, frost, drought, water-saturated soil, low fertility, disease or insect damage.
- ADAMA GLUFOSINATE 150 SL is a non-selective herbicide and has the potential to desiccate, defoliate or kill all green plants. Avoid contact with other desirable plants or crops by direct application or from spray drifts as severe damage may occur.
- **Application of ADAMA GLUFOSINATE 150 SL to non-tolerant Canola or Soybean varieties, hybrids or other non-tolerant crops will result in severe crop injury or death of the crops.**
- **To assure crop safety and optimal herbicide performance, only use ADAMA GLUFOSINATE 150 SL on glufosinate ammonium tolerant Canola or Soybean grown from certified seed.**

#### Plant-back Intervals:

- 70 days for buckwheat, barley, millet, oats, rye, sorghum, triticale.



- 120 days for all other crops except field corn, canola and soybeans, dry common beans (not grown for seed), alfalfa, carrot, lettuce, onion and potato.

#### **Ground Application Precautions:**

- 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) medium classification. Boom height must be 60 cm or less above the crop or ground.
- Do NOT apply if winds exceed 16 kph when using open boom sprayers for ground application.
- Do NOT apply if winds exceed 25 kph when using hooded sprayer for ground application.
- Do not use flood jet nozzles, controlled droplet application equipment or air-assisted spray equipment.

#### **Aerial Application Precautions:**

- Aerial application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply when wind speed is greater than 16 km/h at flying height at the site of application. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE S572.1) coarse classification. Reduce drift caused by turbulent wingtip vortices. Nozzle distribution along the spray boom length **MUST NOT** exceed 65% of the wingspan or rotorspan.

#### **Product Specific Precautions**

- Read and understand the entire label before opening this product. If you have questions, call ADAMA Agricultural Solutions Canada Ltd. at 1-855-264-6262 or obtain technical advice from the distributor or your provincial agricultural representative.

#### **Aerial Application Operator Precautions:**

- DO NOT allow the pilot to mix chemicals to be loaded onto the aircraft. Loading of premixed chemicals with a closed system is permitted.
- It is desirable that the pilot have communication capabilities at each treatment site at the time of application.
- The field crew and the mixer/loaders must wear chemical resistant gloves, coveralls and goggles or face shield during mixing/loading, cleanup and repair. Follow the more stringent label precautions in cases where the operator precautions exceed the generic label recommendations on the existing ground boom label.
- All personnel on the job site must wash hands and face thoroughly before eating and drinking. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.

#### **Rainfast Period:**

- **If rainfall occurs within 4 hours of application, effectiveness may be reduced.**

#### **Spray Buffer Zones:**

Spot treatments using hand-held equipment do not require a spray buffer zone.

The spray 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	Spray Buffer Zones (metres) Required for the Protection of:			
		Freshwater Habitat of Depths:		Terrestrial Habitat	
		Less than 1 m	Greater than 1 m		
Field Sprayer	Alfalfa, Canola, Corn, Raspberry, Soybean	1	0	1	
Aerial	Alfalfa, soybean (fixed wing and rotary)	1	0	20	
	Canola	Fixed-wing	1	0	35
		Rotary-wing	1	0	30

When tank mixes are permitted, consult the labels of the tank-mix partners and observe the largest (most restrictive) spray 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.

### Section 13: Mixing Instructions

#### Mixing Instructions

- ADAMA GLUFOSINATE 150 SL must be applied with properly calibrated, clean equipment.
- ADAMA GLUFOSINATE 150 SL is specially formulated to mix readily in water.
- Prior to adding ADAMA GLUFOSINATE 150 SL to the spray tank, ensure that the spray tank is thoroughly clean (see Section 14, “Sprayer Cleanup”).
  1. Fill the tank three-quarters full with clean water.
  2. Add the correct amount of ADAMA GLUFOSINATE 150 SL.
  3. Add the remaining amount of water, begin agitation, and spray out immediately.

### Section 14: Sprayer Cleanup

- Before and after using ADAMA GLUFOSINATE 150 SL always complete a thorough cleaning of the spray tank, lines, and filter. Spray equipment should be thoroughly rinsed using a strong detergent solution.

### Section 15: Livestock Feeding and Preharvest Intervals

#### LIVESTOCK FEEDING:

##### Canola:

- Grain and meal from treated crop can be fed to livestock.

- Do not graze the treated crop or cut for hay; sufficient data are not available to support such use.

**Corn (used as separator rows in Hybrid Canola Seed Production):**

- Do not feed treated crop to livestock; sufficient data are not available to support such use.

**Soybean:**

- Do not graze the treated fields within 20 days of application.

**PRE-HARVEST INTERVALS (PHI)**

**Canola:**

- When ADAMA GLUFOSINATE 150 SL is tank mixed with Facet® L, observe a PHI of 60 days from the date of treatment.

**Soybean:**

- Do not apply within 70 days of harvesting Soybean seed.

<b>Section 16: Notices</b>
----------------------------

**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.

®

All the products listed are registered trademarks of their respective companies.