



# Rezuvant™ XL

## Herbicide

with ARYLEX™ ACTIVE

GROUP	1	4	HERBICIDE
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**FOR SALE FOR USE IN THE PRAIRIE PROVINCES AND THE INTERIOR OF BRITISH COLUMBIA**

For postemergent control of grass and annual broadleaved weeds in spring wheat, winter wheat and barley.

AGRICULTURAL

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

ACTIVE INGREDIENTS:	halauxifen, present as methyl ester	4.2 g/L
	fluroxypyr, present as 1-methylheptyl ester	104.2 g/L
	pinoxaden	50 g/L
Emulsifiable Concentrate		

**POTENTIAL SKIN SENSITIZER**

REGISTRATION NUMBER 34045 PEST CONTROL PRODUCTS ACT

NET CONTENTS: 1 L - bulk

**Corteva Agriscience Canada Company**  
2450, 215-2<sup>nd</sup> Street SW  
Calgary, Alberta  
T2P 1M4  
1-800-667-3852

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## **PRECAUTIONS**

### **KEEP OUT OF REACH OF CHILDREN**

Potential skin sensitizer.

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

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.

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

Do not allow the pilot to mix chemicals to be loaded onto the aircraft. The pilot is allowed to load premixed chemicals with a closed system.

It is desirable that the pilot have communication capabilities at each treatment site at the time of application.

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.

**At completion of spraying or end of the day:** Take a shower immediately. Wash thoroughly with soap and water before eating, drinking or smoking. Remove contaminated clothing at the end of the work session and store and wash separately from household laundry using detergents and hot water before reuse.

## **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. 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 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 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.

## **TOXICOLOGICAL INFORMATION**

No specific antidote. Employ supportive care. Treatment should be based on the judgment of the physician in response to reactions of the patient. THIS PRODUCT CONTAINS PETROLEUM DISTILLATES. VOMITING MAY CAUSE ASPIRATION PNEUMONIA.

## **AGRICULTURAL CHEMICAL**

Do not ship or store with food, feeds, drugs or clothing.

## **ENVIRONMENTAL PRECAUTIONS**

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

This product contains active ingredients and aromatic petroleum distillates which are toxic to aquatic organisms.

This product demonstrates the properties and characteristics associated with chemicals detected in groundwater. The use of this product in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

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**

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

Store in original containers in a secure, dry heated storage. Do not allow contamination of seeds, plants, fertilizers or other pesticides. Do not contaminate food, feedstuffs or domestic water supplies. If containers are damaged or spill occurs, use the product immediately or contain the spill with absorbent materials and dispose of waste.

## **DISPOSAL**

### **Recyclable Containers:**

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

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

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

### **Returnable Containers:**

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

For 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.

## **GENERAL INFORMATION**

Rezuvant XL is a postemergence herbicide for the control of grass and annual broadleaved weeds in spring wheat, winter wheat, and barley, not underseeded with legumes or forages. Rezuvant XL is mixed with water and applied as a uniform broadcast spray either by ground or aerial application.

Rezuvant XL is absorbed by the leaves and shoots. Thorough coverage of the plants is essential for consistent control.

- Grass weeds susceptible to the Group 1 mode of action will stop growing within 48 hours of treatment. Depending on species, growing conditions and crop competition, leaves and growing points turn yellow within one to three weeks after application. Further colour changes and loss of vigour will be observed, followed by a browning and control three to five weeks after application.

- Broadleaf weeds susceptible to the Group 4 mode of action will begin to show symptoms like epinasty, leaf cupping and swollen nodes shortly after application. These symptoms will progress to include chlorosis, growth inhibition, wilting, and necrosis, with control generally within 2 to 4 weeks after application.

Rezuvant XL must be applied early postemergence, to the main flush of actively growing weeds. Warm, moist growing conditions promote active weed growth and enhance the activity of Rezuvant XL by allowing maximum foliar uptake and activity. Weeds hardened off by cold weather or drought stress may not be adequately controlled or suppressed and re-growth may occur. For best results, ensure thorough spray coverage of target weeds. See DIRECTIONS FOR USE section of this label for complete use details.

## **GENERAL USE PRECAUTIONS**

### **Sensitive Plants**

Do not apply Rezuvant XL directly to, or otherwise permit it to come in direct contact with susceptible crops or desirable plants including tame oats, sensitive forage grasses, alfalfa, edible beans, flax, flowers and ornamentals, lentils, lettuce, peas, potatoes, radishes, soybeans, sugar beets, sunflowers, tomatoes or tobacco.

### **Non-Target Sites**

Do not apply where proximity of susceptible crops (e.g. flax and legumes) or other desirable plants is likely to result in exposure to spray or spray drift. See ENVIRONMENTAL PRECAUTIONS section of this label.

### **Crop Rotation**

Fields previously treated with Rezuvant XL can be seeded after a minimum of 10 months to spring wheat, barley, oats, canola, corn, soybeans, sunflowers, flax, field peas, potatoes (except seed potatoes), mustard, alfalfa, dry bean (*Phaseolus vulgaris* species including pinto, kidney and white types) and timothy or fields can be summerfallowed. Lentils can be planted 22 months after application of Rezuvant XL.

### **Tank Mixtures**

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 both product labels.

In some cases, tank mixing a pest control product with another pest control product or a fertilizer can result in biological effects that could include but are not limited to: reduced pest efficacy or increased host crop injury. The user should contact Corteva Agriscience Canada Company at 1-800-667-3852 or [www.corteva.ca](http://www.corteva.ca) for information before mixing any pesticide or fertilizer that is not specifically recommended on this label. The user assumes the risk of losses that result from the use of tank mixes that do not appear on this label or that are not specifically recommended by Corteva Agriscience Canada Company.

### **Spray Equipment Precaution**

Do not apply through any type of irrigation system.

### **To Reduce Spray Drift:**

1. Use nozzles delivering higher volumes and coarser droplets.
2. Use low pressures (200 to 275 kPa).
3. Use 100 L/ha of spray solution.
4. Spray when the wind velocity is 15 km/hr or less.
5. Spot treatments should only be applied with a calibrated boom to prevent over-application.

### **Sprayer clean-out**

To avoid injury to desirable plants, thoroughly clean equipment used to apply this product before re-use or using it to apply other chemicals.

1. Immediately after spraying, completely drain the sprayer tank. Any contamination on the outside of the spraying equipment should be removed by washing with clean water.
2. First rinse:
  - Spray the inside of tank with clean water and fill the sprayer with at least one tenth of the spray tank volume.
  - Agitate and circulate for 15 minutes, and flush through booms and hoses.
  - Remove end caps or open ball valves on the ends of each boom section, and flush solution through the boom ends to ensure there is no spray solution trapped between the boom end and the nozzles.
  - Drain tank completely.
3. Second rinse:
  - Fill the tank with clean water.
  - Add All Clear Spray Tank Decontaminator as per manufacturer's recommendations while filling the tank with clean water.
  - Agitate and then flush the boom and hoses with the cleaning solution. Top up with water making sure the tank is completely full. Allow to stand for 15 minutes with agitation. Flush the solution out of the spray tank through the spray booms. Remove end caps or open ball valves on the ends of each boom section, and flush solution through the boom ends to ensure there is no spray solution trapped between the boom end and the nozzles.
  - If possible, let the solution stand in the sprayer tank and booms for an extended period of time, overnight if possible.
  - After flushing the boom and hoses, drain tank completely.
  - Remove nozzles and all main filter and nozzle screens and clean separately with a cleaning agent or an ammonia solution (100 mL in 10 L water).
4. Third rinse:
  - Rinse the tank with clean water and flush through the boom and hoses using at least one tenth of the spray tank volume.
  - Remove end caps or open ball valves on the ends of each boom section, and flush solution through the boom ends to ensure there is no spray solution trapped between the boom end and the nozzles.
  - Drain tank completely.

**Do not** use ammonia with chlorine bleach. Using ammonia with chlorine bleach will release a gas with a musty chlorine odour which may cause eye, nose, throat, and lung irritation. Do not clean equipment in an enclosed area.

### **DIRECTIONS FOR USE**

READ THE ENTIRE LABEL BEFORE USE. FAILURE TO FOLLOW LABEL INSTRUCTIONS MAY RESULT IN ERRATIC WEED CONTROL OR CROP DAMAGE. DO NOT APPLY TO CROPS UNDERSEEDDED WITH LEGUMES.

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.

### **APPLICATION METHODS**

#### **(1) Ground Application**

Using ground equipment, apply Rezuvant XL as a broadcast treatment at the recommended rate as specifically listed in the DIRECTIONS FOR USE section of this label.

### **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.

### **(2) 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. To reduce drift caused by turbulent wingtip vortices, the nozzle distribution along the spray boom length **MUST NOT** exceed 65% of the wing- or rotorspan.

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

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

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

### **Use Precautions**

Apply only when meteorological conditions at the treatment site allow for complete and even crop coverage. Apply only under conditions of good agriculture 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.

### **Product Specific Precautions**

Read and understand the entire label before opening this product. If you have questions, call the manufacturer at 1-800-667-3852 or obtain technical advice from the distributor or your provincial agricultural representative. Application of this specific product must meet and/or conform to the following: Avoid spray drift at the application site. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. Users are responsible for considering all these factors when making decisions. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

### **SPRAY BUFFER ZONES**

A spray buffer zone is NOT required for uses with hand-held application equipment permitted on this label.

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

Method of application	Crop		Spray Buffer Zones (metres) Required for the Protection of:				
			Freshwater Habitat of Depths:		Estuarine/Marine Habitat of Depths:		Terrestrial Habitat
			Less than 1 m	Greater than 1 m	Less than 1 m	Greater than 1 m	
Field sprayer	Spring wheat, winter wheat, barley		1	1	1	1	3
Aerial	Spring wheat, winter wheat, barley	Fixed wing	5	1	1	1	100
		Rotary wing	5	1	1	1	90

For tank mixes, 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.

The spray buffer zones for this product can be modified based on weather conditions and spray equipment configuration by accessing the Spray Buffer Zone Calculator on the Pesticides portion of the Canada.ca website.

## REZUVANT XL HERBICIDE ALONE

### Crops Registered

Spring wheat, winter wheat and barley

### Application Timing

*Crop Stage:* Apply to actively growing spring wheat and barley from the 1-leaf stage to just prior to flag leaf emergence. In winter wheat apply from 3 leaf stage to just prior to flag leaf emergence.

*Weed Stage:* Apply to actively growing weeds at the 1-8 leaf stage unless otherwise specified. Only weeds emerged at the time of treatment will be controlled. Best results are obtained from applications made to seedling weeds.

Extreme growing conditions such as drought or near freezing temperature prior to, at or following time of application may reduce weed control and increase the risk of crop injury at all stages of growth. If foliage is wet at the time of application control may be decreased. Under conditions of low crop and high weed density, control may be reduced.

See weed species controlled under “Weeds Controlled or Suppressed by Rezuvant XL Alone”. Apply when weeds are actively growing.

One application per year is permitted.

### Field Sprayer Application Directions

Apply the recommended rate of Rezuvant XL per hectare in 50-200 L per hectare of water.

### Aerial Sprayer Application Directions

Apply the recommended rate of Rezuvant XL per hectare in a minimum of 30 L per hectare of water.

Applications of Rezuvant XL are rainfast within 1 hour of application.

**Weeds Controlled or Suppressed by Rezuvant XL Alone at 1.2 L/ha (1-8 leaf stage, unless otherwise specified, including Group 2 resistant biotypes)**

Grassy Weeds Controlled

barnyard grass***	canary seed, volunteer***
foxtail, green and yellow***	millet, proso***
oats, volunteer***	oats, wild***

Broadleaf Weeds Controlled

alfalfa, volunteer (up to 25 cm in height)	henbit (up to bud stage and 15 cm in height)
Amercian dragonhead (up to bud stage and 15 cm in height)	kochia (up to 15 cm in height)
buckwheat, wild	lamb's-quarters
chickweed	mustard, wild (1-4 leaf stage, up to 10 cm in height)
cleavers (1-9 whorl stage)	nightshade species, (including eastern black, hairy and cutleaf, up to the 6-leaf stage)
cow cockle (up to 8 leaf stage and 15 cm in height)	pigweed, redroot
flax, volunteer (up to 15 cm in height)	ragweed, common (up to 6-leaf stage)*
fleabane, Canada (up to 15 cm in height)*	round-leaved mallow (up to the 6-leaf stage)
flixweed (up to 8 leaf & 8 cm in height)	shepherd's-purse (up to bolting & 20 cm in height)
giant ragweed (up to the 8-leaf stage)*	stork's-bill (up to the 8-leaf stage)
hemp nettle	velvetleaf (up to the 5-leaf stage)

Weeds Suppressed:

sow-thistle, annual (up to 5 leaf stage)  
thistle, Russian

\*Including Group 2 and 9 resistant biotypes

\*\*\*1 to 6-leaf, prior to 4<sup>th</sup> tiller

**Mixing Instructions for Rezuvant XL Alone**

1. Fill sprayer tank 1/2 full of water.
2. Start sprayer tank agitation.
3. Add the required amount of Rezuvant XL.
4. Fill the sprayer tank with sufficient water to spray 30-200 L of spray mixture per hectare.
5. Follow sprayer directions and precautions as outlined above, especially when applying next to sensitive crops (e.g. flax and legumes).
6. Follow sprayer clean-up directions.

**Preharvest/Grazing Intervals**

- Livestock may be grazed on treated crops 7 days following application.
- Do not harvest the treated crop within 60 days after application.
- Do not cut the treated crop for hay or silage within 30 days after application.

**TANK-MIX COMBINATIONS – REZUVANT XL HERBICIDE + MCPA ESTER HERBICIDE**

**Crops Registered**

Spring wheat, winter wheat, barley

**Application Timing**

*Crop Stage:* Apply to actively growing wheat (spring, winter) or barley from the 3-leaf stage to just prior to flag leaf emergence.

*Weed Stage:* Apply when weeds are actively growing. Only weeds emerged at the time of treatment when be controlled. Best results are obtained from applications made to seedling weeds. 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 all product labels.



### Field Sprayer Application Directions

For control of a wide spectrum of broadleaf weeds apply Rezuvant XL tank mixed with MCPA ester (600 g ae/L) at 460-700 mL/ha in 50–200 L per hectare of water.

### Aerial Sprayer Application Directions

Apply the recommended rate of Rezuvant XL per hectare tank mixed with MCPA ester (600 g ae/L) at 460-700 mL/ha in a minimum of 30 L per hectare of water.

**Weeds Controlled or Suppressed by Rezuvant XL Herbicide at 1.2 mL/ha + MCPA ester (600 g ae/L) at 460 - 700 mL/ha (up to 10 cm in height or diameter, unless otherwise specified, including Group 2 resistant biotypes)**

Herbicide Tank Mix Partner	Tank mix partner rate	Additional Weeds Controlled include:
MCPA Ester 600 (600 g ae/L)	465 mL/ha (280 g ae/ha)	<i>Weeds controlled by <b>Rezuvant XL</b> alone plus:</i> Volunteer canola (1-6 leaf stage) *
	583 - 700 mL/ha** (350-420 g ae/ha)	<i>Weeds listed above plus:</i> burdock (before the 4-leaf stage) cocklebur mustard, ball mustard, wild plantain, common prickly lettuce ragweed, false sow-thistle, annual (up to 4 leaf stage) stinkweed vetch wild radish wild (annual) sunflower  <u>Weeds Suppressed</u> dandelion (seedlings & over-wintered rosettes up to 30 cm in diameter) field horsetail (up to 15 cm in height) smartweed, annual (green smartweed, lady's thumb)** sow-thistle, perennial (up to the 6-leaf stage) thistle, Canada (up to the bolting stage, 30 cm in height)

\* Including imidazolinone tolerant volunteer canola

\*\* Use low rate for small seedlings (2- to 4-leaf), growing rapidly, good growing conditions, Use high rate for large weeds, dry or cold weather, heavy infestations

### MIXING INSTRUCTIONS FOR TANK MIXING REZUVANT XL + MCPA Ester

1. Begin to fill sprayer tank with clean water and engage agitator. **Agitation must be continued throughout the entire mixing and spraying procedure.**
2. When the sprayer is half full of water, add MCPA ester and agitate for 2-3 minutes.
3. Add Rezuvant XL next. Agitate for 2-3 minutes.
4. Add remainder of water and maintain constant agitation.
5. After any break in spraying operations, agitate thoroughly before spraying again.
6. **Use the spray mixture as soon as it is prepared.**

## RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, Rezuvant XL Herbicide is a Group 1 and 4 herbicide. Any weed population may contain or develop plants naturally resistant to Rezuvant XL Herbicide and other Group 1 or 4 herbicide. 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 Rezuvant XL Herbicide or other Group 1 or 4 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 Corteva Agriscience Canada Company at 1-800-667-3852 or at [www.corteva.ca](http://www.corteva.ca).

**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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Label Code: CN-34045-002-E

Replaces: CN-34045-001-E

Specimen label notes:

Add weeds