2023-02-15 2022-3097 (Container)



# Frontline<sup>™</sup> XL Herbicide

GROUP 2	4 HERBICIDES
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# FOR SALE FOR USE IN THE PRAIRIE PROVINCES AND THE INTERIOR OF BRITISH COLUMBIA (INCLUDING THE PEACE RIVER REGION) ONLY

Frontline XL Herbicide is a selective herbicide for postemergent control or suppression of annual broadleaved weeds including cleavers, wild buckwheat and chickweed in spring wheat (including durum), spring barley and oats.

COMMERCIAL (AGRICULTURAL)

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

ACTIVE INGREDIENTS: Florasulam 4 g/L MCPA, present as 2-ethylhexyl ester 280 g a.e./L Contains 1,2-benzisothiazoline-3-one at 0.02% as a preservative Suspension

REGISTRATION NO. 28804 PEST CONTROL PRODUCTS ACT

#### HARMFUL IF SWALLOWED POTENTIAL SKIN SENSITIZER

NET CONTENTS: 1 L - bulk

#### Corteva Agriscience Canada Company

2450, 215-2nd Street S.W. Calgary, Alberta T2P 1M4 1-800-667-3852

<sup>™</sup>Trademark of Corteva Agriscience and its affiliated companies.

#### PRECAUTIONS KEEP OUT OF REACH OF CHILDREN DO NOT APPLY BY AIR

Harmful if swallowed. Potential skin sensitizer. Avoid contact with skin, eyes and clothing.

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

### PROTECTIVE CLOTHING AND EQUIPMENT

**All Application Equipment:** Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing, loading, application, clean-up and repair. Gloves are not required during application within a closed cab. In addition, wear safety goggles or face shield during mixing and loading. Wash thoroughly after handling. Wash contaminated clothing before reuse. Destroy contaminated shoes and leather articles.

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

# PHYSICAL OR CHEMICAL HAZARDS

**COMBUSTIBLE.** Do not use or store near heat or open flame.

#### **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 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. High concentrations of MCPA may cause severe irritation to the eyes. Symptoms of overexposure to MCPA could include slurred speech, twitching, jerking and spasms, drooling, low blood pressure and unconsciousness. Treat symptomatically.

#### 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.
- 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.

• 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.

# STORAGE

Store this product away from food or feed. Store in original containers in a secure, dry heated storage. If product is frozen, bring to room temperature and agitate before use. 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.

**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.

(Booklet)



# Frontline<sup>™</sup> XL Herbicide

GROUP 2 4 HERBICIDES

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#### **GENERAL INFORMATION**

Frontline XL Herbicide is a selective postemergence herbicide for the control of hard-to-kill annual broadleaved weeds such as chickweed and cleavers in spring wheat (including durum), spring barley (not underseeded with legumes) and oats. Frontline XL Herbicide is mixed with water and applied as a uniform broadcast spray.

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

Frontline XL Herbicide stops growth of susceptible weeds rapidly. However, typical symptoms (discolouration) of dying weeds may not be noticeable for 1 to 2 weeks after application, depending upon growing conditions and weed susceptibility. Degree of control and duration of effect are dependent on weed sensitivity, weed size, crop competition, growing conditions at and following treatment, and spray coverage.

#### MODE OF ACTION

Frontline XL Herbicide contains a Group 2 and a Group 4 mode of action herbicide. The Group 2 mode of action herbicide inhibits the production of the ALS enzyme in plants. This enzyme is essential for the production of certain amino acids required for plant growth. The Group 4 mode of action herbicide disrupts normal plant growth regulation resulting in death of susceptible plants.

#### **GENERAL USE PRECAUTIONS**

#### **Sensitive Plants**

Do not apply Frontline XL Herbicide directly to, or otherwise permit it to come in direct contact with susceptible crops or desirable plants including alfalfa, edible beans, canola, 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 or other desirable plants is likely to result in exposure to spray or spray drift. See Environmental Hazards section of the label.

#### **Crop Rotation**

Fields previously treated with Frontline XL Herbicide can be seeded the following year to barley, canola, chickpeas, corn, field beans, flax, Juncea canola, lentils, mustard (brown, oriental and/or yellow), oats, peas, potatoes (except seed potatoes), soybeans, sunflowers, or wheat or fields can be summerfallowed.

This product has potential to leach. Do not apply excessive irrigation. Do not use in successive years at the same site.

#### **Tank Mixtures**

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 Corteva Agriscience Canada Company at 1-800-667-3852 or <u>www.corteva.ca</u> 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 both product labels.

#### **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 plus 1 L of household ammonia (containing a minimum of 3 % ammonia) per 100 L of water 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 screens and clean separately with a cleaning agent or an ammonia solution (100 mL in 10 L water).
  - If switching to spray crops sensitive to Frontline XL herbicide, it is recommended to repeat the second rinse procedure.
- 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 UNDERSEEDED 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.

#### Field sprayer application

DO NOT apply during periods of dead calm. Avoid application of this product when winds are gusty. DO NOT apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE S572.1) coarse classification. Boom height must be 60 cm or less above the crop or ground.

#### **Aerial application**

DO NOT apply using aerial application equipment.

Maximum 1 application per year.

# Crops

Spring wheat (including durum), spring barley and oats.

#### **Application Rate**

For control of a wide spectrum of broadleaved weeds, apply a uniform spray containing 1.25 L/ha of Frontline XL Herbicide in a minimum of 100 L of water per hectare to thoroughly cover the weeds. Apply to actively growing wheat, barley, and oats from the 2 leaf expanded to 6 leaf stage. Apply when weeds are actively growing. Only weeds emerged at the time of treatment will be controlled. Best results are obtained from applications made to seedling weeds.

#### **Mixing Instructions**

- 1. Fill sprayer tank 1/2 full of water
- 2. Start sprayer tank agitation
- 3. Add the required amount of Frontline XL Herbicide
- 4. Complete filling the sprayer tank with sufficient water to spray 100 L of spray mixture per hectare
- 5. Follow sprayer directions and precautions as outlined above, especially when applying next to sensitive crops (e.g. canola and legumes)
- 6. Follow sprayer clean-up directions

Note: Do not add a surfactant to this tank mixture.

#### Weeds Controlled or Suppressed

Weeds Controlled:

buckwheat, wild	hempnettle***	prickly lettuce**
burdock**	lamb's quarters	ragweed, common
canola, volunteer*	mustard, ball	shepherd's purse
Chickweed, common	mustard, wild	smartweed
cleavers	pigweed, redroot***	stinkweed
cow cockle	pigweed, Russian**	sunflower, annual**
flixweed (2-4 leaf stage)		

Weeds Suppressed:	
dandelion (seedlings and overwintered	sowthistle, perennial
rosettes less than 15 cm) ***	stork's bill
plantain (top growth)	thistle, Canada ***
sowthistle, annual	narrow-leaved hawk's beard

\*Including all herbicide-tolerant canola varieties

- \*\*Up to the 4 leaf stage
- \*\*\*Optimum control can be achieved with the addition of 70 g a.e./ha MCPA Ester.

#### **Pre-Harvest/Grazing Intervals**

- Do not harvest the treated crop within 60 days after application.
- Do not permit lactating dairy animals to graze fields within 7 days after application.
- Do not harvest forage or cut hay within 7 days after application.
- Withdraw meat animals from treated fields at least 3 days before slaughter.

# TANK-MIX COMBINATIONS WITH FRONTLINE XL HERBICIDE

#### **Crops Registered**

spring wheat (including durum) and spring barley

#### Do not apply these tank mixes to oats

Tank mixtures of Frontline XL Herbicide with other herbicides will provide control of broadleaved weeds and specified annual grasses. Apply when crops and weeds are actively growing. Only weeds emerged at the time of treatment will be controlled. Best results are obtained from applications made to seedling weeds.

#### **Mixing Instructions**

- 1. Fill sprayer tank 1/2 full of water.
- 2. Start sprayer tank agitation.
- 3. Add the required amount of Frontline XL Herbicide and continue to agitate.
- 4. Add the required amount of tank-mix partner.
- 5. Fill the sprayer tank with sufficient water to spray 100 L of spray mixture per hectare.

# Note: Add only the adjuvant recommended below. Follow tank-mix partner label for order of mixing.

Herbicide Tank- Mix Partner	Crops Registered	Rate (Product/ha)	Adjuvant and Rate	Additional Weeds Controlled
Assert 300 SC Herbicide	wheat (spring & durum), spring barley	1.6 L	Refer to the Assert 300 SC label	wild oat
Everest 2.0 Herbicide <sup>+†</sup>	wheat (spring & durum)	36-72 mL/ha	Non-ionic surfactant (see label) 0.25% v/v	Wild oat and green foxtail
Axial 100 EC Herbicide	spring wheat and barley	600 mL	Adigor 700 mL/ha	wild oats, green foxtail, yellow foxtail, volunteer oats, volunteer canary seed, proso millet
Simplicity™	wheat (spring & durum)	500 mL	Not required	wild oats, barnyard grass, Japanese brome, hempnettle** redroot pigweed**

#### Tank-Mix Combinations with Frontline XL Herbicide

<sup>†</sup>For conditions for when to use the higher rates, refer to the Everest 2.0 Herbicide label.

\*Wheat (including durum) exposed to water-logged or saturated soils, or temperature extremes such as heat or freezing weather, or drought, low fertility or plant disease at application time could show unacceptable injury symptoms. Weed control may also be reduced by these same conditions.
 \*\* Additional MCPA not required

Green foxtail control may be reduced with a tank-mix application of Frontline XL Herbicide and Axial 100 EC Herbicide. For optimum control of green foxtail, make separate applications of Axial 100 EC Herbicide and Frontline XL Herbicide.

The DIRECTIONS FOR USE for the uses described in this section of the label were developed by persons other than Corteva Agriscience Canada Company under the User Requested Minor Use Label Expansion program. For these uses, Corteva Agriscience Canada Company has not fully assessed performance (efficacy) and/or crop tolerance (phytotoxicity) under all environmental conditions or for all crop varieties when used in accordance with the label. The user should test the product on a small area first, under local conditions and using standard practices, to confirm the product is suitable for widespread application.

# DIRECTIONS FOR USE

# CONTROL OF LABELLED WEEDS IN SEEDLING OR ESTABLISHED TIMOTHY GROWN FOR SEED OR FORAGE/HAY PRODUCTION

Application Rate: Apply 1.25 L/ha in a minimum of 100 L water/ha. Apply from the 2-leaf expanded stage in seedling Timothy or in the spring on established Timothy. Apply one posteemergent application when weeds are small and actively growing by ground application only.

Do not cut treated crop for hay or graze treated crop within 7 days after application.

Refer to the main Frontline XL Herbicide label for additional details and instructions before using.

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

# Spray Buffer Zone Table

Method of Application	Сгор	Spray Buffer Zones (metres) Required for the Protection of:				
		Freshwater Habitat of Depths:		Estuarine/Marine Habitats of Depths:		Terrestrial Habitat
		Less than 1 m	Greater than 1 m	Less than 1 m	Greater than 1 m	
Field sprayer	Cereals, Timothy (seedling or established)	5	5	5	5	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.

The spray buffer zones for this product that are larger than 1m 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.

# **RESISTANCE MANAGEMENT RECOMMENDATIONS**

For resistance management, please note that Frontline XL Herbicide is both a Group 2 and a Group 4 herbicide. Any weed population may contain or develop plants naturally resistant to Frontline XL Herbicide and to other Group 2 and/or to Group 4 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Other resistance mechanisms that are not linked to site of action, but specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance management strategies should be followed.

To delay herbicide resistance:

- Where possible, rotate the use of Frontline XL Herbicide or other Group 2 or Group 4 herbicide 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.

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