



Dow AgroSciences

Frontline™ XL Herbicide

SUSPENSION

GROUP	2	4	HERBICIDES
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FOR SALE FOR USE IN THE PRAIRIE PROVINCES AND PEACE RIVER REGION OF BRITISH COLUMBIA ONLY

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

AGRICULTURAL

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

GUARANTEE: florasulam 4 g/L
Contains 1,2-benzisothiazoline-3-one at 0.02% as a preservative

GUARANTEE: MCPA, present as 2-ethylhexyl ester 280 g a.e./L

REGISTRATION NO. 28804 PEST CONTROL PRODUCTS ACT

**HARMFUL IF SWALLOWED
POTENTIAL SKIN SENSITIZER**

NET CONTENTS: 1 L - bulk

Dow AgroSciences Canada Inc.
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Calgary, Alberta
T2P 1M4
1-800-667-3852

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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.

PROTECTIVE CLOTHING AND EQUIPMENT

All Application Equipment: Wear coveralls over long-sleeved shirt, long pants, chemical resistant gloves, shoes and socks during mixing, loading, application, clean-up and repair. 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. Applicators using a closed cab are not required to wear chemical-resistant gloves.

Do not use in residential areas, which are defined as sites where bystanders may be present during or after spraying, including homes, schools, parks, playgrounds, playing fields and public buildings.

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 HAZARDS

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

Do not apply during periods of dead calm or when winds are gusty.

Surface runoff

To reduce runoff from treated areas into aquatic habitats, consider the characteristics and conditions of the site before treatment. Site characteristics and conditions that may lead to runoff include, but are not limited to, heavy rainfall, moderate to steep slope, bare soil, poorly draining soil (e.g. soils that are compacted, fine-textured, or low in organic matter such as clay).

Avoid applying this product when heavy rain is forecast.

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

Leaching

The use of this chemical may result in contamination of groundwater particularly in areas where soils are permeable (e.g. sand, loamy sand and sandy loam soils) and/or the depth to the water table is shallow.

STORAGE

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.

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 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.

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

- DO NOT APPLY BY AIR

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

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 Dow AgroSciences Canada Inc at 1-800-667-3852 or www.dowagro.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 Dow AgroSciences Canada Inc.

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 UNDERSEEDDED WITH LEGUMES.

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) coarse classification. Boom height must be 60 cm or less above the crop or ground.

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 rosettes less than 15 cm) ***	sowthistle, perennial
plantain (top growth)	stork's bill
sowthistle, annual	thistle, Canada***
	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.

Restricted Entry Interval (REI)

Re-entry is not permitted until 12 hours after application for all agricultural scenarios unless otherwise indicated.

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. Follow all precautions, minimum interval to harvest and directions for use on the Frontline XL Herbicide and tank-mix partner labels.

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.

Tank-Mix Combinations with Frontline XL Herbicide

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
Horizon 240 EC Herbicide	wheat (spring & durum)	230 mL	Score 0.8% v/v	wild oat
		290 mL	Score 1.0% v/v	wild oat and green foxtail
Everest 2.0 Herbicide[†]	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 ^{♦♦}

[†]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.

NOTE TO USER: READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR THE INDICATED SPECIAL USE APPLICATIONS: The DIRECTIONS FOR USE for this product for the use(s) described below were developed by persons other than Dow AgroSciences Canada Inc. and accepted for registration by Health Canada under the User Requested Minor Use Label Expansion program. Dow AgroSciences Canada Inc. itself makes no representation or warranty with respect to performance (efficacy) and/or crop tolerance (phytotoxicity) claims for this product when used on the crop(s) listed below.

Accordingly, the Buyer and User assume all risks related to performance and crop tolerance arising, and agrees to hold Dow AgroSciences Canada Inc. harmless from any claims based on efficacy and/or phytotoxicity in connection with the use(s) described on this label.

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 postemergent 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.

BUFFER ZONES TO PROTECT SENSITIVE TERRESTRIAL AND AQUATIC HABITATS

Buffer zones are not required for applications with handheld equipment.

The buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, riparian areas and shrublands), sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands) and estuarine/marine habitats.

Buffer Zone Table

Method of Application	Crop	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

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

NOTE: Applicators may recalculate a site-specific buffer zone by combining information on current weather conditions and spray configuration for the following applications: all airblast applications, and for field and aerial applications which specify the following droplet size category wording on the product label: 'DO NOT apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE) [Fine or Medium or Coarse] classification.' To access the Buffer Zone Calculator, please visit the Pest Management Regulatory Agency web site.

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 Dow AgroSciences Canada Inc. at 1-800-667-3852.

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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Replaces: CN-28804-009-E

SPECIMEN LABEL

Add additional text to the sprayer clean out statement.