



Dow AgroSciences

Frontline™ 2,4-D XC Herbicide

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 2,4-D XC Herbicide is a selective tank-mix for postemergent control of annual broadleaved weeds in spring wheat (including durum).

AGRICULTURAL

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

This co-package contains:

Frontline 2,4-D XC A Herbicide
REGISTRATION NO. 30060 PEST CONTROL PRODUCTS ACT
GUARANTEE: Florasulam 50 g/L
Contains 1,2-benzisothiazoline-3-one at 0.02% as a preservative
Suspension

Frontline 2,4-D XC B Herbicide
REGISTRATION NO.30061 PEST CONTROL PRODUCTS ACT
GUARANTEE: 2,4-D, present as 2-ethylhexyl ester 660 g a.e./L
Emulsifiable concentrate

CAUTION  **POISON**

**WARNING – SKIN IRRITANT
POTENTIAL SKIN SENSITIZER
MAY CAUSE SLIGHT EYE IRRITATION**

NET CONTENTS: Frontline 2,4-D XC A Herbicide 1.0 L – 450 L
Frontline 2,4-D XC B Herbicide 1.0 L – 450 L

Dow AgroSciences Canada Inc.

Suite 2100, 450 - 1 Street S.W.

Calgary, Alberta

T2P 5H1

1-800-667-3852

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PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN

WARNING – SKIN IRRITANT

POTENTIAL SKIN SENSITIZER

MAY CAUSE SLIGHT EYE IRRITATION

DO NOT APPLY BY AIR

Causes skin irritation. DO NOT get on skin. Harmful if swallowed. Potential skin sensitizer.

PROTECTIVE CLOTHING AND EQUIPMENT

- When mixing/loading, wear coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks, shoes and protective eye wear (face shield or safety glasses). Rinse gloves before removal.
- Coveralls or a chemical-resistant apron should also be worn when open pouring from containers
- When applying or during clean-up and repair, wear coveralls over a long sleeved shirt, long pants, chemical resistant gloves, socks and shoes. Rinse gloves before removal.
- Gloves are not required during application when the applicator is in an enclosed tractor."
- When handling more than 402 L of Frontline 2,4-D XC B Herbicide per day, workers must also use a closed system.

Application Using Groundboom Equipment

Applicators must wear coveralls over a long-sleeved shirt and long pants. Chemical-resistant gloves must also be worn during clean-up and repair activities

MIXING

Transfer System

For containers larger than 20 L, use a transfer system that avoids open pouring when transferring the liquid concentrate from such containers into the spray tank.

OPERATOR USE PRECAUTIONS

- Wear freshly laundered clothing and clean protective equipment daily.
- Rinse gloves before removal.
- Wash hands before eating, drinking, using tobacco or using the toilet.
- If herbicide penetrates clothing remove immediately; then wash thoroughly and put on clean clothing. Throw away clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate.
- After using this product, remove clothing and launder separately, and promptly and thoroughly wash hands and exposed skin with soap and water. Follow manufacturer's instructions for cleaning personal protective clothing and equipment. If no such instructions for washables are provided, use detergent and hot water. Keep and wash personal protective equipment separate from household laundry.
- After work, remove all clothing and shower using soap and water.

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 a 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 judgement of the physician in response to reactions of the patient. This product may cause mild irritation to the eyes. Overexposure to 2,4-D may cause coughing, burning, dizziness or temporary loss of muscle coordination. Other possible effects of overexposure include fatigue, muscle weakness or nausea.

AGRICULTURAL CHEMICAL

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

ENVIRONMENTAL HAZARDS

Toxic to small wild mammals, birds, aquatic organisms and non -target terrestrial plants. This product will harm other broadleaved plants in the vicinity of the treatment area. If applying this product using a handheld sprayer, do not directly spray or allow the spray to drift onto ornamentals or gardens. Do not spray exposed roots of trees or ornamentals.

LEACHING

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

RUN-OFF

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 of this product when heavy rain is forecast. Contaminations of aquatic areas as a result of runoff may be reduced by including a strip of untreated vegetation between the treated area and the edge of the water body. To prevent runoff, avoid spraying on driveways, sidewalks or other hard surfaces. Do not irrigate within 24 hours after application.

Observe buffer zones specified under BUFFER ZONES TO PROTECT SENSITIVE HABITATS.

STORAGE

Store in original containers in a secure, dry heated storage. This product will freeze at -10°C. If product is frozen, bring to room temperature and agitate before use. If this product is exposed to temperatures below -20°C, it should be warmed to at least 5°C and mixed thoroughly before using. Do not allow contamination of seeds, plants, fertilizers or other pesticides. Do not contaminate food, feedstuffs or domestic water supplies. This product must be stored away from fertilizers, seeds, insecticides, fungicides or other herbicides intended for use on 2,4-D sensitive crops. If containers are damaged or spill occurs, use the product immediately or contain the spill with absorbent materials and dispose of waste.

USE

When the container with 2,4-D is empty, triple rinse and add the rinse water to the spray tank. Care must be taken during application to avoid contaminating irrigation ditches or domestic water supplies. Avoid using sprayers which contained 2,4-D to apply other pesticides to sensitive crops.

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.

NOTE: Local conditions may affect the use of herbicides. Provincial agricultural authorities issue recommendations to fit local conditions. Be sure that use of this product conforms to all applicable regulations.

GENERAL INFORMATION

Frontline 2,4-D XC Herbicide is a selective postemergence herbicide for the control of hard-to-kill annual broadleaved weeds in spring wheat (including durum). Frontline 2,4-D XC Herbicide is mixed with water and applied as a uniform broadcast spray. It is non-corrosive, nonflammable, and nonvolatile.

Frontline 2,4-D XC 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 2,4-D XC 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 2,4-D XC 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 2,4-D XC Herbicide is a combination of Group 2 and Group 4 herbicides. Group 2 herbicides inhibit the production of the ALS enzyme in plants. This enzyme is essential for the production of certain amino acids which are essential for plant growth. Group 4 herbicides are synthetic auxins, which act at multiple sites in the plant to disrupt hormone balance and protein synthesis and thereby cause a variety of plant growth abnormalities.

GENERAL USE PRECAUTIONS

- Do not apply through any type of irrigation system.
- Do not use in successive years at the same site.
- This product has potential to leach. Do not apply excessive irrigation.
- DO NOT apply this product directly to freshwater habitats such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands, estuaries or marine habitats.
- DO NOT contaminate irrigation/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) coarse classification. Boom height must be 60 cm or less above the crop or ground.

Restricted Entry Interval (REI)

All crops—12-hour REI

Sensitive Plants

Do not apply Frontline 2,4-D XC 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 (e.g. canola and legumes) or other desirable plants is likely to result in exposure to spray or spray drift. See Environmental Hazards section of the label.

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.

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, or Clean-Out Spray Tank Cleaner, or 1 L of household ammonia (containing a minimum of 3 % ammonia) per 100 L of water, or similar tank cleaning agent 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).
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.

FRONTLINE 2,4-D XC HERBICIDE ALONE

Application Directions

For control or suppression of a wide spectrum of broadleaf weeds, apply Frontline 2,4-D XC A at a rate of 100 mL/ha, with Frontline 2,4-D XC B at a rate of 0.85 L/ha.

Crops Registered

Spring wheat (including durum)

Weeds Controlled or Suppressed by Frontline 2,4-D XC Herbicide

Weeds Controlled:

bluebur	flixweed	ragweed, common
burdock	kochia ^{♦♦}	shepherd's purse
buckwheat, tartary	lady's-thumb	smartweed
buckwheat, wild	lamb'squarters	sowthistle, annual
canola, volunteer [♦]	mustard, ball	stinkweed
chickweed, common	mustard, wild	sunflower, annual
cleavers	narrow-leaved hawk's-beard ^{♦♦♦}	thistle, Russian
cocklebur	pigweed, redroot	vetch
dandelion (seedlings and overwintered rosettes)	plantain	wild radish
	prickly lettuce	

[♦]Including all herbicide-tolerant canola varieties.

^{♦♦}Up to 5 cm in height

^{♦♦♦}1-2 leaf stage

Tank-Mix Combinations with Frontline 2,4-D XC Herbicide

Herbicide Tank-Mix Partner	Rate (Product/ha)	Adjuvant and Rate	Additional Weeds Controlled
Assert 300 SC	1.6 L	Refer to the Assert 300 SC label	wild oat
Everest Herbicide 2.0 [†]	36-72 mL/ha	Non-ionic surfactant (see label) 0.25% v/v	wild oat and green foxtail
Puma 120 Super	385 mL	Not recommended	green foxtail

[†]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.

BUFFER ZONES TO PROTECT SENSITIVE HABITATS

Use of the following spray methods or equipment DO NOT require a buffer zone: hand-held or backpack sprayer and spot treatment.

Seasonal water bodies require buffer zones if there is water in them during application. Water bodies which do not fill on an annual basis need not be buffered.

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	Field crops (spring wheat including durum)	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 2,4-D XC Herbicide is both a Group 2 and a Group 4 herbicides. Any weed population may contain or develop plants naturally resistant to Frontline 2,4-D XC 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 2,4-D XC Herbicide or other Group 2 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.

All products listed are registered trademarks of their respective companies.

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Label Code: CN-30060 30061-003-E

Replaces: CN-30060 30061-002-E

Specimen label notes:

Updated tank clean out statement and updated Everest 70 DF to Everest 2.0 tank mix
Added chickpea, corn, field beans, flax, juncea canola, lentils mustard (brown, oriental and/or yellow), potato, soybean and sunflower as rotational crops.