

2024-10-28
2023-3067

(Sleeve)

GROUP	1	4	HERBICIDE
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Signal® F Herbicide

Emulsifiable Concentrate

**FOR SALE FOR USE IN THE PRAIRIE PROVINCES AND INTERIOR OF BRITISH
COLUMBIA (INCLUDING THE PEACE RIVER REGION) ONLY**

For post-emergent weed control in spring wheat and durum wheat.

COMMERCIAL (AGRICULTURAL)

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

ACTIVE INGREDIENT:

Fluroxypyr, present as 1-methylheptyl ester ... 217 g/L
Clodinafop-propargyl ... 112 g/L

Contains Cloquintocet-mexyl at 28.6 g/L as a safener

REGISTRATION NO. 31434 PEST CONTROL PRODUCTS ACT

**DANGER – SKIN IRRITANT
EYE IRRITANT**

Net Contents: 1 Litre to Bulk

Nufarm Agriculture Inc.

5101, 333 - 96th Ave NE
Calgary, Alberta
T3K 0S3
1-800-868-5444

24 Hour Emergency Response Number 1-800-424-9300

PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN.

DANGER - SKIN IRRITANT.

CAUTION - EYE IRRITANT. Do not wear contact lenses when using.

HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN.

DO NOT APPLY BY AIR.

DO NOT get in eyes. Avoid contact with skin and clothing. Avoid breathing spray mist.

If mixing and loading more than 15 kg a.i. in a day, workers must use a closed mixing/loading system.

During mixing, loading, clean-up, repair and when applying by groundboom, workers must wear coveralls over long-sleeved shirt and long pants, shoes and socks, goggles, and chemical-resistant gloves.

Do not eat, drink or smoke while mixing, loading or during application.

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

DO not use in residential areas. Residential areas are defined as any use site where bystanders, including children, could be exposed during or after application. This includes homes, schools, parks, playgrounds, playing fields, public buildings, or any other area where the general public, including children, could be exposed.

Apply only to agricultural crops when the potential for drift to areas of human habitation and areas of human activity such as houses, cottages, schools and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

ENVIRONMENTAL PRECAUTIONS:

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

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

PROTECTIVE CLOTHING AND EQUIPMENT

When mixing/loading, workers must wear coveralls over long-sleeved shirt and long pants, shoes and socks, goggles, chemical-resistant gloves, chemical resistant footwear and protective eye wear (face shield or safety glasses). Rinse gloves before removal.

When applying the dilute spray solution or during clean-up or repairing equipment, workers must wear coveralls over long-sleeved shirt and long pants, shoes and socks, goggles, chemical-resistant gloves and chemical resistant footwear. Rinse gloves before removal. Gloves are not required during application when applicator is in an enclosed tractor.

FIRST AID

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.

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

TOXICOLOGICAL INFORMATION

This product contains petroleum distillates. **DO NOT INDUCE VOMITING.** Vomiting may cause aspiration pneumonia. Treat symptomatically for ingestion and/or skin and eye contact.

EMERGENCY TELEPHONE NUMBERS

For spills or transportation accidents, Chemtrec, 1-800-424-9300.

For health or environmental emergencies, ProPharma Group, 1-877-325-1840.

For product and use information, Nufarm Agriculture Inc., 1-800-868-5444.

STORAGE

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

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Refillable Containers:

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For information on disposal of unused, unwanted product, contact the manufacturer or the provincial/ territorial regulatory agency. Contact the manufacturer and the provincial/ territorial 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.

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Signal® is a registered trademark of Nufarm Agriculture Inc.

(Booklet)

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OPERATOR USE PRECAUTIONS

Wear freshly laundered clothing and clean protective equipment daily. At completion of spraying or end of the day take a shower immediately. Wash thoroughly with soap and water before eating, drinking, smoking or using the toilet. 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. 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. Avoid contact with eyes, skin and clothing. Avoid breathing spray mist.

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GENERAL INFORMATION

Signal® F Herbicide is a systemic, postemergence herbicide for the control of kochia, cleavers, wild oats, green foxtail, yellow foxtail, barnyard grass, volunteer oats, volunteer canary seed and suppression of wild buckwheat in wheat (spring and durum) in the Prairie Provinces, Peace River Region and Interior of British Columbia.

Thorough coverage of the plants is essential for consistent control.

Signal F Herbicide can be tank-mixed with 2,4-D and MCPA herbicides to provide a broader spectrum of weed control. Refer to the appropriate tank mix sections.

GENERAL USE PRECAUTIONS

Sensitive Plants

Do not apply **Signal F 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 the Environmental Hazards section of the label.

Crop Rotation

Fields previously treated with **Signal F Herbicide** can be seeded the following year to barley, canola, flax, forage grasses, lentils, mustard, oats, peas, rye or wheat or fields can be summerfallowed.

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.

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).

Method of application	Crop	Spray Buffer Zones (metres) Required for the Protection of:		
		Freshwater Habitat of Depths:		Terrestrial Habitat
		Less than 1 m	Greater than 1 m	
Field sprayer	Spring wheat and durum wheat	1	0	1

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 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.

Spray Equipment Precaution

Do not apply through any type of irrigation system.

DO NOT APPLY BY AIR.

To Reduce Spray Drift:

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

Equipment Clean-Up

Equipment used to apply **Signal F Herbicide** should not be used to apply other pesticides to sensitive crops without thorough cleaning. Contact your **Signal F Herbicide** dealer for detailed equipment cleaning procedures.

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.

A 30-day plant-back interval must be observed for all unlabelled crops.

Crops Registered

Spring wheat
Durum wheat

SIGNAL F HERBICIDE ALONE

Apply **Signal F Herbicide** at 0.5 L/ha with **Nufarm Enhance**[®] at 0.25%v/v (0.25 L of Nufarm Enhance in 100 L water).

Weeds Controlled or Suppressed by SIGNAL F Herbicide Alone at 0.5 L/ha

Weeds Controlled	Weed Stage
cleavers	1- to 4-whorls
kochia ¹	2- to 8-leaf
volunteer flax	1 to 12 cm
wild oats ²	1- to 6-leaf
volunteer canary seed ²	1- to 5-leaf
volunteer (tame) oats ²	3- to 6-leaf
barnyard grass ³	1- to 5-leaf
green foxtail and yellow foxtail ⁴	1- to 5-leaf
Weed Suppressed	
wild buckwheat	1- to 4-leaf

¹Including biotypes resistant to Group 2 herbicides that inhibit the ALS enzyme

²Prior to emergence of 4th tiller

³For optimal control, apply before tillering, and while weed is actively growing

⁴For optimal control, apply prior to emergence of the 3rd tiller and while foxtail is actively growing

NOTE: Signal F Herbicide activity is influenced by weather conditions. Optimum activity requires active crop and weed growth. The temperature range for optimum activity is 12°C to 24°C. Reduced activity will occur when temperatures are below 8°C or above 27°C. Frost before application (3 days) or shortly after (3 days) may reduce weed control and crop tolerance. Weed control may be reduced during stress conditions, e.g. drought, heat or cold stress, or if weeds have initiated flowering, or if heavy infestations exist.

APPLICATION DIRECTIONS

Application Timing

Apply to actively growing wheat from the 2-leaf crop growth stage up to and including just prior to the emergence of 4th tiller.

Apply when weeds are actively growing. Best results are obtained from applications made to seedling weeds. Only weeds that have emerged at the time of treatment will be controlled. Extreme growing conditions such as drought or near freezing temperature prior to, at and following time of application may reduce weed control and increase the risk of crop injury at all stages of growth.

Foliage that is wet at the time of application may decrease control. **Signal F Herbicide** applications are rainfast within 1 hour after application. Under conditions of low crop and high weed density, control may be reduced.

Preharvest/Grazing Intervals (Signal F Herbicide applied alone)

Observe a minimum pre-harvest interval of 60 days after treatment for grain and straw and of 30 days after treatment for hay. Observe a minimum of seven (7) days before grazing livestock on treated crops.

- Do not harvest the treated crop within 60 days after application.

TANK MIX INSTRUCTIONS

This product may be tank mixed 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 Nufarm Agriculture Inc. at 1-800-868-5444 for information before applying any tank mix that is not specifically recommended on this label.

Signal F HERBICIDE + NUFARM 2,4-D ESTER 700 HERBICIDE

For control of a wide spectrum of broadleaved weeds (see following table) apply **Signal F Herbicide** tank mixed with **Nufarm 2,4-D Ester 700 Herbicide**. Apply postemergence when weeds are in the seedling stage and when spring wheat and durum wheat are in the 4-leaf to flag-leaf stage. Application before the 4-leaf stage of wheat may cause severe twisting of leaves and stem, and head deformities which may reduce yield up to 10%. Do not apply later than the flag-leaf stage.

Crops: spring wheat and durum wheat

Rate of Application

Signal F Herbicide Rate	Nufarm 2,4-D Ester 700 Rate	Nufarm Enhance Rate
0.50 L/ha	Up to 0.85 L/ha (560 g a.e./ha)	0.25% v/v

Apply a uniform spray in a minimum of 100 L of water per hectare to thoroughly cover the weeds.

Weeds Controlled or Suppressed by Signal F Herbicide + Nufarm 2,4-D Ester 700 (at 0.85 L/ha) Tank Mix

All weeds controlled and suppressed by **Signal F Herbicide** alone **plus**:

Weeds Controlled:

blue lettuce ¹	goat's-beard	redroot pigweed
bluebur	green tansy mustard	Russian thistle
burdock	gumweed	shepherd's-purse
canola (volunteer)	hairy galinsoga	smartweed
clovers (sweet)	hedge bindweed	stinkweed
cocklebur	hoary cress ¹	stork's-bill (1- to 8-leaf)
dandelion ²	lady's-thumb	sunflower (annual)
docks	lamb's-quarters	Tartary buckwheat
dog mustard	leafy spurge ¹	vetch
field bindweed ¹	oak-leaved goosefoot	wild buckwheat (1- to 4-leaf)
field horsetail ¹	plantain	wild mustard
field peppergrass	prickly lettuce	wild radish
flixweed	ragweed	

Weeds Supressed:

Canada thistle ¹	sow-thistle (annual)
sow-thistle (perennial) ¹	

¹ Top growth control only

² Spring rosettes

Pre-Harvest/Grazing Intervals (Signal F Herbicide + Nufarm 2,4-D Ester 700 Herbicide)

- Do not permit lactating dairy animals to graze fields within 7 days after application.
- Do not harvest forage or cut hay within 30 days after application.
- Withdraw meat animals from treated fields at least 3 days before slaughter.
- Do not harvest the treated mature crop within 60 days after application.

Signal F HERBICIDE + NUFARM MCPA ESTER 600 HERBICIDE

For control of a wide spectrum of broadleaved weeds (see following table) apply **Signal F Herbicide** tank mixed with **Nufarm MCPA Ester 600 Herbicide**. Apply postemergence when weeds are in the seedling stage and when spring wheat and durum wheat are in the 3-leaf to 4th tiller stage. Application before the 3-leaf stage of wheat may cause severe twisting of leaves and stem, and head deformities which may reduce yield up to 10%. Do not apply later than the 4th tiller stage. Do not apply to cereals underseeded with a legume.

Rate of Application

Signal F Herbicide Rate	Nufarm MCPA Ester 600 Rate	Nufarm Enhance Rate
0.50 L/ha	Up to 0.93 L/ha (560 g a.e./ha)	0.25% v/v

Apply a uniform spray in a minimum of 100 L of water per hectare to thoroughly cover the weeds.

Weeds Controlled or Suppressed by Signal F Herbicide + Nufarm MCPA Ester 600 Herbicide (at 0.93 L/ha) Tank Mix

All weeds controlled and suppressed by **Signal F Herbicide** alone **plus**:

Weeds Controlled:

burdock, common	lamb's-quarters	shepherd's-purse
canola, volunteer	mustard (except dog & green tansy)	stinkweed
cocklebur	pigweed, redroot (1- to 4-leaf)	sunflower, annual
flixweed	prickly lettuce	vetch
hempnettle (2- to 6-leaf)	ragweed, common	wild radish

Weed Suppressed:

green smartweed

Pre-Harvest/Grazing Intervals (Signal F Herbicide + Nufarm MCPA Ester 600 Herbicide)

- Allow 7 days between application and grazing/cutting for hay.
- Do not harvest the treated mature crop within 60 days after application.

RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, please note that **Signal F Herbicide** is a Group 1 and 4 herbicide. Any weed population may contain plants naturally resistant to **Signal F Herbicide** and Group 1 and 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 **Signal F Herbicide** or other Group 1 and 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 and to report suspected resistance, contact Nufarm Agriculture Inc. at 1-800-868-5444 or at www.nufarm.ca.

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