

2024-0657  
2025-06-10

Unclassified / Non classifié

(Sleeve)

GROUP	2	4	14	HERBICIDES
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**ThunderHawk® EZ**  
**Herbicide**

**Emulsifiable Concentrate**

COMMERCIAL

FOR CONTROL OF EMERGED BROADLEAF WEEDS PRIOR TO THE EMERGENCE OF SPRING WHEAT  
(INCLUDING DURUM), WINTER WHEAT, SPRING BARLEY AND OATS

ACTIVE INGREDIENTS:

Pyraflufen-ethyl ... 6.75g/L

MCPA, present as the 2-ethylhexyl ester ...210 a.e.g/L

Florasulam ... 5.63g/L

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

POTENTIAL SKIN SENSITIZER

REGISTRATION NO.: 35502 PEST CONTROL PRODUCTS ACT

Net Contents: (0.5 – Bulk) Litres

Nufarm Agriculture Inc.  
5101, 333 – 96<sup>th</sup> 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.**

Potential skin sensitizer. Avoid contact with skin, eyes and clothing. Wash concentrate from skin or eyes immediately.

After use wash hands and other exposed skin.

**DO NOT** apply by air.

Apply only when the potential for drift beyond the area to be treated is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment, and sprayer settings.

**PROTECTIVE CLOTHING AND EQUIPMENT:**

Wear coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, protective eyewear (goggles or face shield), socks and shoes during mixing, loading, clean-up and repair.

Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during application. Gloves are not required during application within a closed cab.

At completion of spraying or end of the day: Take a shower immediately. Wash thoroughly with soap and water before eating, drinking or smoking. Wash contaminated clothing with soap and hot water, separately from household clothing, before reuse. Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate..

**RESTRICTED-ENTRY INTERVAL (REI):**

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

**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 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.

**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.

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

**TOXICOLOGICAL INFORMATION:**

Treat symptomatically. This product contains petroleum distillates. Vomiting may cause aspiration pneumonia. No specific antidote. Employ supportive care. Treatment should be based on judgement 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.

**ENVIRONMENTAL PRECAUTIONS:**

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

Toxic to certain beneficial arthropods (which may include predatory and parasitic insects, spiders, and mites). Minimize spray drift to reduce harmful effects on beneficial arthropods in habitats next to the application site such as hedgerows and woodland. Care should be taken when using this product in an integrated pest management program where users are relying on the presence of beneficial arthropods.

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. Additional guidance can be found on the Runoff Mitigation portion of the Canada.ca website.

The residues of pyraflufen-ethyl are persistent and may carry over. It is recommended that this product not be used in areas treated with any products containing pyraflufen-ethyl during the previous season.

**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:**

Storage below 0°C will not impair the effectiveness of **ThunderHawk® EZ**, however, if frozen, return to original state by allowing product to warm to 10 - 20°C and agitate thoroughly before use.

Store this product away from food or feed.

**DISPOSAL:**

**For recyclable containers:**

Disposal of container: 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 or territorial requirements.

Disposal of unused, unwanted product: For information on disposal of unused, unwanted product contact the registrant or the provincial or territorial regulatory agency. Contact the registrant and the provincial or 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.

ThunderHawk® EZ is a trademark of Nufarm Agriculture Inc.

(Booklet)

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**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.

<b>DIRECTIONS FOR USE</b>
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**DO NOT** apply by air.

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.

**ThunderHawk® EZ** is designed for use as a contact and systemic herbicide for broadleaf weed control. **ThunderHawk® EZ** will damage emerged crop plants, even in minute quantities. Apply **ThunderHawk® EZ** prior to the emergence of the crop, either as a pre-seeding or post-seeding application. Apply when weeds are in the seedling stage and actively growing.

Pyraflufen-ethyl, a member of the phenyl pyrazole class of herbicides, inhibits the protoporphyrinogen oxidase (PPO) enzyme which results in cell membrane destruction and necrosis.

MCPA, a member of the phenoxy class of herbicides, mimics the plant growth regulator indol-3-acetic acid (auxin), interfering with cell enlargement and division, and development in susceptible plants.

Florasulam inhibits 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.

**Growing Conditions**

Warm, moist growing conditions promote active weed growth and enhance the activity of **ThunderHawk® EZ** 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.

In fields with low organic matter (soils <3%) and coarse-textured soils or in fields with highly variable soils, gravelly areas, sandy areas, eroded knolls or those subject to compaction, crop injury may occur when combined with sufficient moisture (heavy rainfall, high soil moisture) to move product into the soil zone during seedling development. Under adverse conditions, the plants are less capable of metabolizing any active taken up by the roots which may result in weakened seedlings. Fields may exhibit reduced stand, yield or delayed maturity. Drought, disease or insect damage following application may also result in crop injury, grade or yield loss. Use high quality, treated seed and plant into warm soils with favourable germination conditions. Ensure good soil fertility practices that promote rapid germination and seedling development.

APPLY **ThunderHawk® EZ** WITH GROUND EQUIPMENT ONLY.

For best results, ensure thorough spray coverage of target weeds. Refer to the specific use directions sections of this label for complete use details.

Do not permit lactating dairy animals to graze fields within 7 days after application.  
Do not graze or cut treated crops for forage until 60 days after application.  
Withdraw meat animals from treated fields at least 3 days before slaughter.

Field sprayer application: DO NOT apply when wind speed is less than 1 km/h. Avoid application of this product when winds are gusty. DO NOT apply with spray droplets smaller than the American Society of Agricultural and Biological Engineers (ASABE) S572 (S572.1 to 572.3) medium classification. Boom height must be 60 cm or less above the crop or ground.

**Sensitive Plants**

Do not apply **ThunderHawk® EZ** 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 Precautions section of the label.

**SPRAY BUFFER ZONES**

A spray buffer zone is NOT required for:

- uses with hand-held 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.

		<b>Spray Buffer Zones (metres) Required for the Protection of:</b>
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Method of application	Crop	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 (including durum), winter wheat, spring barley, oats	1	1	0	0	3

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 (ASABE) category indicated on the labels for those tank mix partners.

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

**CROPS:**

**ThunderHawk® EZ** can be applied pre-seeding or up to 48 hours post-seeding, prior to crop emergence in the crops listed below.

- Spring wheat (including durum wheat), winter wheat, spring barley, and oats

**Crop Rotation**

Fields previously treated with **ThunderHawk® EZ** can be seeded the following crop year to alfalfa, barley, canola, chickpeas, corn, faba beans, field beans, flax, canola quality *Brassica juncea*, lentils, mustard (brown, oriental and/or yellow), oats, peas, potatoes (except seed potatoes), soybeans, sunflower, wheat, forage crops or fields can be summerfallowed.

**Tank Mixes**

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

**MIXING INSTRUCTIONS:**

1. Select a spray volume and nozzle type that will ensure thorough coverage and uniform spray pattern. Use a minimum of 100 L spray volume per hectare.
2. Fill the spray tank 1/3 full with fresh water and start agitation.
3. Add the required amount of **ThunderHawk® EZ** to the tank, agitate well.
4. If tank mixing with glyphosate, add the required amount of glyphosate to the tank and agitate well. Always consult the label of the tank mix partner(s) for minimum spray volume requirements and apply the tank mixture using a water volume recommended for all products.
5. If tank mixing with an adjuvant such as Carrier, add the required amount and agitate well
6. Continue to fill tank and maintain agitation for at least 5 minutes to ensure thorough mixing.
7. Use the spray preparation of **ThunderHawk® EZ** within 24 hours. Product degradation may occur under alkaline conditions (pH >7.5). If spray solution is left standing without agitation, thoroughly agitate before resuming the spraying operation.

**APPLICATION INSTRUCTIONS:**

Apply the spray mixture uniformly with properly calibrated ground equipment only. Ensure thorough coverage and a uniform spray pattern. Flat fan nozzles are recommended (a minimum 100 L spray volume per hectare). Use 50 mesh filter screens or larger (metal or nylon). A spray pressure of 210 - 275 kPa is recommended. Apply uniformly.

<b>i. ThunderHawk® EZ ALONE</b>
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<b>Weeds Controlled (C) or Suppressed (S) with ThunderHawk® EZ</b>		
<b>Weed</b>	<b>Rate</b>	
	<b>667 mL/ha</b>	<b>888 mL/ha</b>
Canada fleabane	S	S
Cleavers (including glyphosate-resistant biotypes)	C	C
Common chickweed	-	C
Common dandelion	S	S
Cow cockle	S	C
False cleavers	C	C
Flixweed	S	S
Hempnettle	-	S
Kochia (including Group 2 and glyphosate-resistant biotypes)	C	C
Lamb's-quarters (including Group 2 & 5 resistant biotypes)	C	C
Mallow	C	C
Mustards (except Dog and Tansy)	C	C
Narrow-leaved hawk's-beard	C	C
Night-flowering catchfly	C	C

Redroot pigweed (including Group 2 & 5 resistant biotypes)	C	C
Shepherd's purse	-	C
Smartweed	-	C
Sowthistle, annual	S	S
Sowthistle, perennial	-	S
Stinkweed	C	C
Volunteer canola (including glyphosate, glufosinate ammonium, and imidazolinone-resistant biotypes)	C	C
Wild buckwheat	C	C

\*Weed suppression is a visual reduction in weed competition (reduced population and/or vigour) as compared to an untreated check. Degree of suppression will vary with size of weed and environmental conditions prior to and following treatment.

**Adjuvant:** Apply **ThunderHawk® EZ** with the adjuvant, Carrier at 0.25% v/v (2.5 L of Carrier per 1000 L spray solution).

**Timing:** For best results apply to emerged, young, actively growing weeds that are less than 5 cm tall or across. Thorough coverage of target weeds is essential.

**ThunderHawk® EZ** can only be applied once per year.

Heavy rainfall immediately after application may wash the chemical off the foliage and a repeat treatment may be required. Do not apply if rainfall is forecast for the time of application.

**Weed control may be reduced if the plants are beyond the recommended application growth stage, and during stress conditions, e.g. drought, heat or cold stress, or in heavy infestations where overlapping leaves prevent spray contact. In these situations, use up to 888 mL/ha.**

<b>ii. ThunderHawk® EZ + Glyphosate</b>
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Apply **ThunderHawk® EZ** tank mixed with glyphosate prior to seeding and no longer than 48 hours after seeding, prior to any crop emergence. Rates and formulation of glyphosate are detailed in the following table.

Herbicide and Rate	Tank Mix Partner	Glyphosate Rate
<b>ThunderHawk® EZ</b> 667 - 888 mL/ha	<b>Glyphosate</b>	450-900 g a.i./ha*

\* Equal to 1.25 – 2.5 L/ha of glyphosate 360 g/L,  
1.0 – 2.0 L/ha of glyphosate 450 g/L or  
0.83 – 1.67 L/ha of glyphosate 540 g/L

Higher rates of glyphosate may be recommended in some situations. Refer to the glyphosate product label for additional rates.

**Weeds controlled:** All weeds controlled by **ThunderHawk® EZ** and glyphosate alone (see the tank mix partner label).

For weeds that are not controlled by the chosen rate of glyphosate, apply the tank mixture in accordance with the recommended timing for control of the weed with **ThunderHawk® EZ** alone.

**iii. ThunderHawk® EZ + Carrier**

Apply **ThunderHawk® EZ** tank mixed with Carrier prior to seeding and no longer than 48 hours after seeding, prior to any crop emergence. Rates and formulation of Carrier are detailed in the following table.

Herbicide and Rate	Tank Mix Partner	Carrier Rate
<b>ThunderHawk® EZ</b> 667 - 888 mL/ha	<b>Carrier</b>	0.25-0.5% v/v

**SPRAYER CLEANUP:**

To avoid subsequent injury to crops, immediately after spraying and prior to spraying other crops, thoroughly remove all traces of **ThunderHawk® EZ** from mixing and spray equipment as follows:

- Drain tank; then flush tank, boom and hoses with clean water for a minimum of ten minutes.
- Next, prepare a sprayer cleaning solution by adding 3 litres of ammonia (containing at least 3% active) per 100 litres of clean water. Prepare sufficient cleaning solution to allow the operation of the spray system for a minimum of 15 minutes to thoroughly flush the tank, hoses, spray boom and spray nozzles.
- If possible, leave the ammonia solution or fresh water left in the spray tank, hoses, spray booms and spray nozzles overnight or during storage to dissolve and dilute any remaining traces of herbicide.
- Nozzles and screens may be cleaned separately in a bucket containing cleaning agent and water.
- DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

**RESISTANCE MANAGEMENT RECOMMENDATIONS:**

For resistance management, please note that **ThunderHawk® EZ** is both a Group 2, 4 and 14 herbicide. Any weed population may contain or develop plants naturally resistant to **ThunderHawk® EZ** and other Group 2, 4 and/or 14 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 **ThunderHawk® EZ** or other Group 2, 4 and/ or 14 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](http://www.nufarm.ca).