

Sleeve

GROUP	<b>4</b>	HERBICIDE
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**Nufarm**

**Tropotox® Plus 400  
Liquid Herbicide**

**AGRICULTURAL**

**CONTAINS MCPB AND MCPA SALT SOLUTION**

**GUARANTEE:**

MCPB, present as sodium salt ... 375 g a.e./L

MCPA, present as potassium salt ... 25 g a.e./L

Warning:

Contains the allergen sodium caseinate (milk).

**READ THE LABEL AND ATTACHED  
BOOKLET BEFORE USING**

For use in cereals, seedling clovers, pastures, corn and peas

REGISTRATION NO. 8211  
PEST CONTROL PRODUCTS ACT



WARNING

POISON

EYE IRRITANT

(4-100) Litres

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

Tropotox® is a registered trademark of Nufarm Agriculture Inc.

## **PRECAUTIONS**

**KEEP OUT OF REACH OF CHILDREN.**

Harmful or fatal if swallowed.

Harmful if inhaled. Avoid inhaling/breathing dusts, sprays, or other aerosolized particles.

Causes eye irritation. DO NOT get into eyes.

Avoid contact with skin, eyes and clothing. Store with container tightly closed, and away from seeds, feeds, fertilizers, plants, foodstuffs and greenhouses. Wash concentrate from skin or eyes IMMEDIATELY. Protect from frost. Avoid spray drift onto susceptible crops. Avoid contamination of ponds, streams, rivers and water sources. Wash sprayer thoroughly before and after use. After use wash hands and other exposed skin.

Apply only when the potential for drift to areas of human habitation or areas of human activity (houses, cottages, schools and recreational areas) is minimal.

Take into consideration wind speed, wind direction, temperature inversion, application equipment and sprayer settings.

Do not use in residential areas. Residential areas are defined as sites where bystanders including children may be potentially exposed during or after spraying. This includes around homes, schools, parks, playgrounds, playing fields, public buildings or any other areas where the general public including children could be exposed.

Not for use in greenhouses.

## **PROTECTIVE CLOTHING AND EQUIPMENT**

**Handling the concentrate (mixing and loading):** Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes. Rinse gloves before removal.

**Handling the dilute spray solution (during application or repairing or cleaning equipment):** Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes. Rinse gloves before removal. Applicators using a closed-cab are not required to wear chemical-resistant gloves.

Refer to the "Directions for Use" booklet for additional information regarding protective clothing and equipment.

## **ENVIRONMENTAL HAZARDS**

Toxic to aquatic organisms, birds and small wild animals.

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

### **Surface runoff**

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 strip 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 (for example, sandy soil) and/or the depth to the water table is shallow.

### **STORAGE CONDITIONS**

Store at temperatures above 0°C. SHAKE WELL BEFORE USING.

### **FIRST AID**

**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 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**

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

### **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.

### **DISPOSAL**

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.

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. The user assumes the risk to persons or property that arises from any such use of this product.

18-1736

Booklet

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Not for use in greenhouses.

## **PROTECTIVE CLOTHING AND EQUIPMENT**

### **Groundboom**

If handling less than 165 L of Nufarm Tropotox<sup>®</sup> Plus 400 Liquid Herbicide /day/person, wear a long-sleeved shirt, long pants, shoes plus socks, and chemical resistant gloves. Chemical resistant gloves are not required to be worn during groundboom application but are required for clean-up and repair. According to these provisions, do not handle more than 165 L of product in one day (for example, 39 ha at the maximum rate of 4.25 L/ha). These restrictions are in place to minimize exposure to individual workers. Application may need to be performed over multiple days or using multiple workers.

If handling more than 165 L of Nufarm Tropotox Plus 400 Liquid Herbicide in one day, use a closed-system for mixing/loading while wearing coveralls over a long-sleeved shirt, long pants, shoes plus socks, and chemical resistant gloves. Also, use a closed-cab that provides both a physical barrier and respiratory protection (i.e. dust/mist filtering and/or vapour/gas purification system). The closed cab must have a chemical resistant barrier that totally surrounds the occupant and prevents contact with pesticides outside the cab. Chemical-resistant gloves are not required to be worn inside the closed cab, but have them ready for leaving the cab during calibration, repair or cleaning of equipment. According to these provisions, do not handle more than 720 L of product in one day (for example, 170 ha at the maximum rate of 4.25 L/ha). These restrictions are in place to

minimize exposure to individual workers. Application may need to be performed over multiple days or using multiple workers.

### **Spot Treatment**

Wear coveralls over a long-sleeved shirt, long pants, shoes plus socks, and chemical resistant gloves. Do not handle more than 4 L of product in one day (for example, 0.9 ha at the maximum rate of 4.25 L/ha). These restrictions are in place to minimize exposure to individual workers. Application may need to be performed over multiple days or using multiple workers.

Cereals, pastures, seedling alfalfa, seedling clover, seedling grasses, peas

(succulent/processing and dry/field):

A Restricted Entry Interval (REI) of 12 hours after application is required to perform post-application activities in treated areas.

Field corn:

*An REI of 9 days after application is required to perform post-application activities (scouting) in treated areas.*

- When used on barley, oats, rye, wheat, field corn, peas (succulent/processing and dry/field), pastures and seedling grasses:

**CAUTION:** Do not use treated cereals for grazing of livestock or green feed until 30 days after application of Nufarm Tropotox Plus 400 Liquid Herbicide. Do not cut treated cereals for forage until 30 days after application of Nufarm Tropotox Plus 400 Liquid Herbicide. Withdraw meat animals from treated fields at least 3 days before slaughter.

- When used on seedling clover:

*Do not permit lactating dairy animals to graze fields within 30 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.*

- A minimum rotational crop plant back interval (PBI) of 12 months must be observed for all crops other than those registered for use with MCPA or MCPB.

### **ENVIRONMENTAL HAZARDS**

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### **Surface runoff**

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Avoid application when heavy rain is forecast.

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### **Leaching**

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

### **STORAGE CONDITIONS**

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### **NOTICE TO USER**

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### **DIRECTIONS FOR USE**

#### **DO NOT APPLY BY AIR.**

### **RESISTANCE-MANAGEMENT RECOMMENDATIONS**

For resistance management, Nufarm Tropotox Plus 400 Liquid Herbicide is a Group 4 herbicide. Any weed population may contain or develop plants naturally resistant to Nufarm Tropotox Plus 400 Liquid Herbicide and other 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 Nufarm Tropotox Plus 400 Liquid Herbicide or other group 4 herbicides 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.
- Herbicide use should be based on an IPM program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage (or other mechanical), cultural, biological and other chemical control practices.
- Monitor treated weed populations for resistance development.
- Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment and planting clean seed.
- 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 Nufarm Agriculture Inc. at 1-800-868-5444 or at [www.nufarm.ca](http://www.nufarm.ca).

**WEATHER** Apply Nufarm Tropotox Plus 400 Liquid Herbicide in warm weather when plants are growing well. Do not apply in drought conditions.

**MIXING** To ensure even mixing half fill the sprayer tank with clean water, add the required amount of Nufarm Tropotox Plus 400 Liquid Herbicide and agitate thoroughly. Add the remainder of the water and mix before spraying.

**SPRAY VOLUME** Equip the spraying machine with nozzle tips to apply 150 to 200 litres of water per hectare using a pressure not exceeding 275kPa. Before use, calibrate the machine to ensure that the correct application rate is obtained.

**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.

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

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.

Method of application	Crop	Buffer Zones (metres) Required for the Protection of:		
		Aquatic Habitat of Depths:		Terrestrial habitat
		Less than 1 m	Greater than 1 m	
Field sprayer	Peas, barley, field corn, oats, rye, seedling clover, wheat (spring and durum), seedling grasses, pasture and seedling alfalfa for seed	1	1	4*

\* For field sprayer application, buffer zones can be reduced with the use of drift reducing spray shields. When using a spray boom fitted with a full shield (shroud, curtain) that extends to the crop canopy, the labelled buffer zone can be reduced by 70%. When using a spray boom where individual nozzles are fitted with cone-shaped shields that are no more than 30 cm above the crop canopy, the labeled buffer zone can be reduced by 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.

**TIMES AND RATES OF APPLICATION** Use the dose required to control the weeds present. DO NOT exceed 4.25 L/ha. A spray volume of 150 to 200 L/ha is

recommended. Spray when the crop and weeds are growing well and the weeds are at a susceptible stage.

**DO NOT USE NUFARM TROPOTOX PLUS 400 LIQUID HERBICIDE** on crops other than those recommended below.

**A maximum of one application of Nufarm Tropotox Plus 400 Liquid Herbicide is allowed per season.**

**CROPS:**

**APPLICATION TIME:**

**CEREALS**

Wheat, oats, barley, rye. From two-leaf stage to flag-leaf stage.

**FIELD CORN**

After the crop is 45 cm high, but before the beginning of tasselling. Drop nozzles should be used.  
When hand-harvesting corn the Re-entry interval (REI) and Pre-Harvest Interval (PHI) is 15 days.

**PASTURES**

After grazing or cutting when weeds are at a susceptible stage.

**PEAS**

Apply Nufarm Tropotox Plus 400 Liquid Herbicide when the peas have three to six expanded leaves.

**IMPORTANT:** Damage may be caused particularly in early maturing pea varieties, if spraying is carried out after this stage. Spray Nufarm Tropotox Plus 400 Liquid Herbicide when the growing conditions are good and the peas are not under stress due to drought or disease.

**SEEDLING  
CLOVER**

Wild White, Dutch White, Ladino, Alsike and Red Clovers. With or without a companion crop – After primary or spade leaf stage to fourth-true-leaf stage. Companion crop: wheat, oats, barley, see above. Do not apply more than one treatment per year.

**SEEDLING  
GRASSES**

DO NOT exceed 3.5 L / ha. Apply at the 2-4 leaf stage of crop. A maximum of 1 application is permitted per season. **DO NOT GRAZE THE TREATED CROP OR CUT HAY IN THE YEAR OF ESTABLISHMENT.** Seedling smooth brome grass, meadow brome grass, creeping red fescue, reed canary grass, altai fescue, meadow fescue, tall fescue, altai wild ryegrass, Russian wild ryegrass, timothy, crested wheatgrass, intermediate wheatgrass, pubescent wheatgrass, tall wheatgrass, slender wheatgrass, streambank wheatgrass, northern wheatgrass, western wheatgrass and green needlegrass.

**NOTE TO USER:**

**READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR THE INDICATED SPECIAL USE APPLICATIONS:**

The **DIRECTIONS FOR USE** for this product on seedling alfalfa grown for seed production were developed by persons other than Nufarm Agriculture Inc., and accepted for registration by Health Canada under the User Requested Minor Use Label Expansion Program. Nufarm Agriculture Inc. itself makes no representation or warranty with respect to performance (efficacy) and/or crop tolerance (phytotoxicity) in connection with the use described for seedling alfalfa grown for seed production.

Accordingly, the User assumes all liability arising, and agrees to hold Nufarm Agriculture Inc. harmless from any claims based on efficacy and/or phytotoxicity in connection with the use described for seedling alfalfa grown for seed production.

**DIRECTIONS FOR USE:**

**Seedling alfalfa grown for seed production. (Western Canada only)**

A maximum of 1 application is permitted per season. Apply at the 3 to 6 trifoliolate stage of seedling alfalfa when Canada thistle and other broadleaved weeds are at a susceptible stage.

**TIMES AND RATES OF APPLICATION:** Use the dose required to control the weeds present. **DO NOT** exceed 4.25 L/ha. A spray volume of 150 to 200 L/ha is recommended. Spray when the crop and weeds are growing well and the weeds are at a susceptible stage.

Alfalfa vigour may be reduced in the year of treatment, however, the crop recovers and yield will not normally be affected.

**WEEDS**

Annual and perennial broadleaf weeds

**SUSCEPTIBILITY OF WEEDS TO NUFARM TROPOTOX PLUS 400 LIQUID HERBICIDE**

**ANNUAL WEEDS:**

Spray when the weeds are in the seedling stage. Resistance increases with age.

**SUSCEPTIBLE WEEDS: USE 2.75 L/ha**

Wild mustard, Ball Mustard, Wormseed Mustard, Stinkweed, Lamb's Quarters.

**SUSCEPTIBLE WEEDS: USE 4.25 L/ha**

Redroot Pigweed, Ragweed, Shepherd's Purse, Volunteer rapeseed (including canola).

**MODERATELY SUSCEPTIBLE WEEDS: USE 4.25 L/ha**

Wild radish, hempnettle, Annual Sowthistle.

**PERENNIAL WEEDS:**

Spray in good growing conditions at stage indicated below.

**SUSCEPTIBLE WEEDS: USE 4.25 L/ha**

Bull Thistle:	Rosette to early bud stage.
Canada Thistle:	Spray from 15 cm to early bud stage for top growth control only.
Curled Dock:	Spray young plants in rosette stage.
Plantains:	Spray young plants in rosette stage.

**MODERATELY SUSCEPTIBLE WEEDS: USE 4.25 L/ha**

**Top Growth Controlled**

Perennial Sowthistle:	Growth and flowering retarded. Spray at rosette stage.
Field Bindweed:	In spring to check top growth
Horsetail:	Spray when 15 cm high.
Creeping Buttercup:	In Spring when growth is vigorous.
Tall Buttercup:	In Spring when growth is vigorous.

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