

MCPA Amine 600

Liquid Herbicide

AGRICULTURAL

GROUP

4

HERBICIDE



WARNING

POISON

DANGER - CORROSIVE TO EYES

Nufarm Agriculture Inc.
5507 1st Street SE
Calgary, Alberta T2H 1H9
1-800-868-5444

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

CONTAINS MCPA AMINE SOLUTION

GUARANTEE:

MCPA, present as dimethylamine salt ...
600 g a.e./L

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

For use in wheat, barley, rye, oats, flax, peas,
corn and pastures.

REGISTRATION NO. 28384
PEST CONTROL PRODUCTS ACT



Nufarm

PRECAUTIONS:

KEEP OUT OF REACH OF CHILDREN. Avoid contact with skin, eyes and clothing. Wash concentrate from skin or eyes immediately. After use, wash hands and other exposed skin. Avoid breathing spray mist.

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.

If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U.S., visit CropLife Canada's web site at www.croplife.ca.

PROTECTIVE CLOTHING AND EQUIPMENT:

Handling the concentrate (mixing and loading): wear a long-sleeved shirt, long pants, socks, shoes and chemical-resistant gloves. Rinse gloves before removal. Wear goggles or face shield during mixing/loading. Remove and wash contaminated clothing before reuse.

Handling the dilute spray solution (during application or repairing or cleaning equipment): wear a long-sleeved shirt, long pants, socks, shoes and chemical-resistant gloves. Rinse gloves before removal. Remove and wash contaminated clothing before reuse. Aerial applicators and applicators using a closed cab are not required to wear chemical-resistant gloves.

ENVIRONMENTAL HAZARDS:

Toxic to aquatic organisms and non-target terrestrial plants. Observe buffer zones specified under DIRECTIONS FOR USE. Avoid contamination of aquatic systems during applications. Do not contaminate these systems through direct application, disposal of waste or cleaning of equipment.

Surface runoff: To reduce runoff from treated areas into aquatic habitats, consider the characteristics and conditions of the site before the treatment. Site characteristics and conditions 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 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 strip of untreated vegetation (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 sand loam soils) and/or the depth to the water table is shallow.

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:

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. Treat symptomatically.

EMERGENCY TELEPHONE NUMBERS:

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

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

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

STORAGE:

Store the container tightly closed away from seeds, fertilizer, plants and foodstuffs.

Store at temperatures above 0°C. If subjected to freezing temperatures, warm to at least 5°C and mix thoroughly. SHAKE WELL BEFORE USING.

DISPOSAL:

For 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 rinsing 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 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 Returnable-Refillable Containers:

For disposal, this container may be returned to the point of purchase (distributor/dealer). It must be refilled by the distributor/dealer with the same product. Do not reuse this container for any other purpose.

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.

DIRECTIONS FOR USE:

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

RESISTANCE-MANAGEMENT RECOMMENDATIONS:

For resistance management, Nufarm MCPA Amine 600 Liquid Herbicide is a Group 4 herbicide. Any weed population may contain or develop plants naturally resistant to Nufarm MCPA Amine 600 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 MCPA Amine 600 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.

GENERAL USE PRECAUTIONS:

Nufarm MCPA Amine 600 Liquid Herbicide may cause damage to susceptible crop, ornamental, and other plants, even in minute quantities. Avoid spray drift to any desirable vegetation. Coarse sprays are less likely to drift. Do not spray during periods of high winds.

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

MIXING:

Shake well before using. To ensure even mixing, half fill the sprayer tank with clean water, add the required amount of Nufarm MCPA Amine 600 Liquid Herbicide and agitate thoroughly. Add the remainder of the water and agitate before spraying. If the spray solution has been left standing, agitate thoroughly before use.

EQUIPMENT AND SPRAY VOLUME:

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.

Aerial application: DO NOT apply during periods of dead calm. Avoid application of this product when winds are gusty. DO NOT apply when wind speed is greater than 16 km/h at flying height at the site of application. DO NOT apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE) coarse classification. To reduce drift caused by turbulent wingtip vortices, the nozzle distributions along the spray boom length MUST NOT exceed 65% of the wingspan or rotorspan.

Buffer Zones

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, rangelands, 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.

When a tank mixture is used, consult the labels of the tank-mix partners and observe the largest (most restrictive) buffer zone of the products involved in the tank mixture.

Method of Application	Crop	Buffer Zones (metres) Required for the Protection of:					Terrestrial Habitat
		Freshwater Habitat of Depths:		Estuarine/Marine Habitats of Depths:			
		Less than 1 m	Greater than 1 m	Less than 1 m	Greater than 1 m		
Field Sprayer*	All crops	1	1	1	1	4	
Aerial	Terrestrial Food and Feed Crops						
	Cereals, flax,	Fixed	1	0	1	0	60
		Rotary wing	1	0	1	0	50
	Pasture, rangeland	Fixed	5	1	1	1	100
		Rotary wing	4	1	1	1	80
	Legumes	Fixed	1	1	0	0	25
		Rotary wing	1	1	0	0	25
	Non-crop Uses						
	Uncropped land	Fixed	30	1	20	1	200
		Rotary wing	20	1	10	1	100

*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 labelled buffer zone can be reduced by 30%.

Apply in 50 to 200 litres of water per hectare by ground equipment unless otherwise indicated. Higher water volumes will reduce the risk of crop injury. Apply in a minimum of 30 litres of water per hectare by aerial equipment. Use spray nozzles and pressures that deliver a medium to coarse quality spray. Avoid generating fine, driftable droplets.

Generic Aerial Application Label Instructions

Apply only by fixed-wing or rotary aircraft equipment which has been functionally and operationally calibrated for the atmospheric conditions of the area and the application rates and conditions of this label.

Label rates, conditions and precautions are product specific. Read and understand the entire label before opening this product. Apply only at the rate recommended for aerial application on this label. Where no rate for aerial application appears for the specific use, this product cannot be applied by any type of aerial equipment.

Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices. No human flaggers are permitted.

Use Precautions

Apply only when meteorological conditions at the treatment site allow for complete and even crop coverage. Apply only under conditions of good practice specific to aerial application as outlined in the National Aerial Pesticide Application Manual, developed by the Federal/Provincial/Territorial Committee on Pest Management and Pesticides.

Do not apply to any body of water. Avoid drifting of spray onto any body of water or other non-target areas. Specified buffer zones should be observed.

Coarse sprays are less likely to drift, therefore, avoid combinations of pressure and nozzle type that will result in fine particles (mist). Do not apply during periods of dead calm or when wind velocity and direction pose a risk of spray drift. Avoid spraying when the wind is blowing towards a nearby sensitive crop, garden, terrestrial habitat (such as shelter-belt) or aquatic habitat.

Operator Precautions

Do not allow the pilot to mix chemicals to be loaded onto the aircraft. Mixer/loader and applicator must be different individuals. Aircraft must be closed cab. Loading of premixed chemicals with a closed system is permitted. It is desirable that the pilot have communication capabilities at each treatment site at the time of application.

The field crew and the mixer/loaders must wear long-sleeved shirt, long pants and coveralls, chemical resistant gloves and goggles or face shield during mixing/loading, cleanup and repair. Follow the more stringent label precautions in cases where the operator precautions exceed the generic label recommendations on the existing ground boom label.

All personnel on the job site must wash hands and face thoroughly before eating and drinking. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.

Product Specific Precautions

Read and understand the entire label before opening this product. If you have questions, call the manufacturer at 1-800-868-5444 or obtain technical advice from the distributor or your provincial agricultural representative.

TANK MIXES:

Nufarm MCPA Amine 600 Liquid Herbicide may be recommended in tank mix with other products. Consult the label of the tank mix partner product, and follow the most stringent set of precautions, restrictions and directions for use.

CROPS, TIMING, RATES AND METHODS OF APPLICATION:

Use the dose required to control the weeds present. Apply in warm weather when the crop and weeds are growing well, and the weeds are at a susceptible stage. Application must be made before the crop canopy shields the weeds. To minimize the risk of crop injury, do not exceed the recommended rate listed for the crop. Higher rates may be required to control certain weed species. Rates above those recommended for a crop may result in significant crop injury, and should only be used when the risk of crop injury will be offset by the benefits of enhanced weed control. Avoid application during drought conditions or during exceptionally hot weather.

CROP: Spring Cereals (Wheat, Barley, Rye, Oats), not underseeded with legumes

APPLICATION TIME: From the 2-leaf expanded to the early flag-leaf stage.
Do not apply after the flag leaf stage.
Treatment at the 3 to 4-leaf stage usually combines maximum crop tolerance with maximum weed susceptibility.
Do not apply more than one treatment per year.

METHOD: Ground or aerial application.

RECOMMENDED RATE PER HECTARE: Up to 1.05 L for wheat, barley and rye.
Up to 900 mL for oats.

WATER VOLUME PER HECTARE: Minimum of 50 L (ground).
Minimum of 30 L (aerial).
Spraying with higher volumes of water (100-150 L) may reduce risk of crop injury.

CROP: Winter Cereals (Winter Wheat, Fall Rye)

APPLICATION TIME: In spring, from full tillering to the flag-leaf stage.
Do not apply during and after the flag-leaf stage.
Do not apply to seedling winter cereals in the fall.
Do not apply more than one treatment per year.

METHOD: Ground or aerial application.

RECOMMENDED RATE**PER HECTARE:** Up to 1.05 L.**WATER VOLUME****PER HECTARE:** Minimum of 50 L (ground).
Minimum of 30 L (aerial).
Spraying with higher volumes of water (100-150 L) may reduce risk of crop injury.

CROP: Spring Cereals, underseeded with alfalfa or bird's-foot trefoil**APPLICATION TIME:** From the 3-leaf expanded to the early flag-leaf stage (cereals).
From the 1st to 4th trifoliate and not more than 10 cm tall for the seedling legumes.
Do not apply after the flag-leaf stage of the cereals.
Do not apply more than one treatment per year.**METHOD:** Ground application only.**RECOMMENDED RATE****PER HECTARE:** Between 250 mL and 470 mL (Do not exceed 470 mL.)**WATER VOLUME****PER HECTARE:** Spraying with higher volumes of water (100-150 L) may reduce risk of crop injury.**NOTES:** Some injury to the legumes may occur, especially if growing conditions are very favourable. To minimize crop injury, spray in the evening and use higher water volumes. Do NOT apply Nufarm MCPA Amine 600 liquid herbicide to sweet clover. For cereals underseeded to clovers, the use of TROPOTOX® PLUS 400 is recommended.**TANK MIXTURE:** Nufarm MCPA Amine 600 liquid herbicide at 60 mL with EMBUTOX® 625 at 1.25 L per hectare may be applied. Consult the EMBUTOX 625 label for application timing.

CROP: Flax (Do not apply to low linolenic acid varieties.)**APPLICATION TIME:** When flax is between 5 cm in height to before bud stage.
To minimize crop injury, spray at early growth stages, in the evening, and use higher water volumes.
Do not apply more than one treatment per year.**METHOD:** Ground or aerial application.

RECOMMENDED RATE**PER HECTARE:** Up to 830 mL.**RECOMMENDED WATER VOLUME****PER HECTARE:** Minimum of 50 L (ground).
Minimum of 30 L (aerial).
Spraying with higher volumes of water (100-150 L) may reduce risk of crop injury.**NOTES:** Caution: Early crop injury may be observed, but yield should not be affected.

CROP: Field Corn**APPLICATION TIME:** Before corn reaches 15 cm tall (leaf extended) and/or before the 6-leaf stage as an overall spray. Do not apply more than one treatment per year. When hand-harvesting corn (field and sweet), follow a Re-entry Interval (REI) and Pre-harvest Interval (PHI) of 15 days.**METHOD:** Ground application only.**RECOMMENDED RATE****PER HECTARE:** Up to 917 mL. Do not add oil or surfactant**RECOMMENDED WATER VOLUME****PER HECTARE:** Minimum of 100 L.**NOTES:** Damage to the corn may result if an overall spray is applied beyond this stage.

CROP: Peas (field and processing)**APPLICATION TIME:** When vines are 10 to 20 cm long but before flower buds are formed.**METHOD:** Ground application only.**RECOMMENDED RATE****PER HECTARE:** Between 250 and 417 mL. (Do not exceed 417 mL.)**RECOMMENDED WATER VOLUME****PER HECTARE:** 150 - 200 L.**NOTES:** DO NOT apply to peas in Nova Scotia.

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CROP:	Established Legumes and Pasture (dormant treatment)
APPLICATION TIME:	Apply BEFORE legumes start their growth in the spring. Do not apply more than two treatments per year, with a minimum retreatment interval of 90 days.
METHOD:	Ground or aerial application.
RECOMMENDED RATE PER HECTARE:	Up to 1.8 L.
RECOMMENDED WATER VOLUME PER HECTARE:	Minimum of 50 L (ground). Minimum of 30 L (aerial).
NOTES:	Do not graze livestock for at least 7 days after application. Do NOT apply Nufarm MCPA Amine 600 liquid herbicide to sweet clover.

CROP:	Pasture (without legumes) and Uncropped Land (Rangeland) for tall buttercup control
APPLICATION TIME:	Apply when tall buttercup are in the pre-bud to early bud stage. Do not apply more than two treatments per year, with a minimum retreatment interval of 90 days.
METHOD:	Ground or aerial application.
RECOMMENDED RATE PER HECTARE:	2.25 to 3.5 L for uncropped land and 2.25 to 2.9 L for pastures.
RECOMMENDED WATER VOLUME PER HECTARE:	Minimum of 50 L (ground). Minimum of 30 L (aerial).

CROP:	Seedling and Established Red Clover for Seed – Western Canada Only.
APPLICATION TIME:	Seedling – 1 st to 3 rd trifoliolate stage. Established – breaking of dormancy in spring, up to 7.5 cm. Do NOT graze or cut for green feed. Do not apply more than two treatments per year, with a minimum retreatment interval of 21 days.
METHOD:	Ground application only.

RECOMMENDED RATE**PER HECTARE:** 470 mL.**RECOMMENDED WATER VOLUME****PER HECTARE:** Spraying with higher volumes of water (100-150 L) may reduce risk of crop injury.
Some crop injury may occur with low water volumes.

CROP: Seedling Red Clover for Forage.**APPLICATION TIME:** Seedling – 1st to 3rd trifoliolate stage.
Do NOT graze or cut for green feed in the first year.
Do not apply more than 1 treatment per year.**METHOD:** Ground application only.**RECOMMENDED RATE****PER HECTARE:** 470 mL.**RECOMMENDED WATER VOLUME****PER HECTARE:** Spraying with higher volumes of water (100-150 L) may reduce risk of crop injury.
Some crop injury may occur with low water volumes.**WEEDS CONTROLLED:****(DO NOT exceed the rates given for each specific crop identified in the CROPS, TIMING, RATES AND METHODS OF APPLICATION section)****SUSCEPTIBLE WEEDS (2-4 leaf stage):**

Bluebur, burdock (before 4-leaf stage), cocklebur, false flax, flixweed, lamb's-quarters, mustards (except dog and tansy), prickly lettuce, ragweeds, redroot pigweed, Russian pigweed, shepherd's-purse, stinkweed (field pennycress), vetch, wild radish, wild sunflower.

RATES TO CONTROL SUSCEPTIBLE WEEDS:Small seedlings, good growing conditions: 580 mL/ha.
Large weeds, dry or cold weather, heavy infestations: 920 mL/ha.
Resistance increases with age.**HARDER-TO-CONTROL WEEDS (2-4 leaf stage):**

Weeds listed under susceptible plus annual sow-thistle, biennial wormwood, common chickweed, curled dock (before the 4-leaf stage), daisy fleabane, goat's-beard, groundsel, hairy galinsoga, hawkweed, heal-all, hempnettle (before the 4-leaf stage), knotweed (before the 4-leaf stage), kochia, oak-leaved goosefoot, peppergrass, pineappleweed, plantain, purslane, sheep sorrel, smartweed, stinging nettle, velvetleaf, wild radish, yellow rocket (before the 4-leaf stage).

RATES FOR HARDER-TO-CONTROL WEEDS:

Small seedlings, good growing conditions: 1.05 L/ha.

Large weeds, dry or cold weather, heavy infestations: 1.80 L/ha.

Resistance increases with age.

TOP GROWTH CONTROL ONLY:

Blue lettuce, bull thistle, burdock, buttercup, Canada thistle, chicory, curled dock, dandelion, dog mustard, field bindweed, gumweed, hedge bindweed, hoary cress, leafy spurge, mouse-eared chickweed, perennial sow-thistle, Tartary buckwheat, teasel, wild buckwheat, wormwood, yellow rocket.

RATES FOR TOP GROWTH CONTROL:

Small seedlings, good growing conditions: 1.05 L/ha.

Large weeds, dry or cold weather, heavy infestations: 1.80 L/ha.

Resistance increases with age.

CLEANING OF SPRAYER:

Thoroughly clean the herbicide sprayer before applying any other chemical on crops which may be damaged (see USE PRECAUTIONS). Wash the outside of the sprayer and drain the tank completely. Remove and clean filters, screens and nozzle tips separately. Fill the sprayer tank with clean water. With the agitator running, flush out the lines and boom, then drain. Fill the sprayer with clean water and for each 100 L, add 1 L household ammonia. Operate the pump and agitator for 15 minutes. If possible, let the solution remain in the tank and hoses overnight; recirculate and flush out the lines and boom, then drain. Rinse out twice with clean water, recirculating and draining each time. DO NOT contaminate irrigation or drinking water when cleaning the sprayer.

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