

COMMON QUESTIONS AND ANSWERS ABOUT MILESTONE

WHY A HERBICIDE? WHY NOT JUST MOW THE WEEDS?

Besides being very labour intensive, mowing spreads seed, destroys habitat and can encourage suckering from perennial weeds. This only increases the vegetation problem and requires more frequent and intensive management. Milestone selectively controls the problem weeds and eliminates resprouting. Because of this improved control, crews and machinery visit the site less often and have a reduced negative impact on the environment.

WHO WILL BE APPLYING MILESTONE?

A vegetation manager plans herbicide treatments and oversees crew activities. Trained, professional applicators apply Milestone in designated areas using approved application techniques. Applicators follow directions on the product label, which is reviewed by Health Canada's Pest Management Regulatory Agency (PMRA).

HOW WILL MILESTONE BE APPLIED?

Options include broadcast and selective foliar applications, depending on the size and severity of the weed infestation. Small amounts of Milestone are mixed with water and then applied to the leaves of the weeds which are being targeted. Applicators take special care to ensure wind and temperature conditions are just right before applying.

IS MILESTONE TOXIC?

Milestone has a low toxicity when compared to many substances we contact in daily life. For example, Milestone is less toxic than common table salt that you use every day. It's highly unlikely that anyone, including applicators who handle the concentrated product, could accidentally receive a large enough dose to be harmed.

WILL MILESTONE HURT ANIMALS?

Milestone is designed only to affect plants. The herbicide's active ingredient disrupts the growth

process within the plant by affecting enzymes unique to plants. Milestone is practically non-toxic to birds, fish, honeybees, earthworms and aquatic invertebrates.

HOW CAN I PROTECT MYSELF?

Stay away from the treated area until the spray has dried. You can control your exposure by using common sense and avoiding the treated area until the spray has dried.

WHAT IF I ATE TREATED BERRIES?

You should not consume berries treated with Milestone. However, due to the extremely low application rates and overall toxicological profile of Milestone, the risk of experiencing any adverse effects is extremely low.

WHAT IF I WALK ACROSS A TREATED AREA?

Avoid walking across a treated area until spray has dried. Accidental exposure may occur from walking across an area still damp from a foliar treatment. However, due to the extremely low use rates and overall safety of the product (Dermal LD 50 is >5000 mg/kg), the dose you would receive is not likely to cause any harm.

WILL MILESTONE HARM THE SOIL?

Milestone is broken down by soil micro organisms (fungi and bacteria) and sunlight. The breakdown rate depends on rainfall, soil temperature and micro organism activity. The average time for 50 percent of the active ingredient to break down is 35 days. Milestone has been shown to be practically nontoxic to earthworms.

WILL MILESTONE SEEP INTO GROUNDWATER?

Due to the very low application rates, its favourable breakdown rates and its increased absorption with time to soil particles, the potential for groundwater contamination is low.



For industrial site managers and roadside invasive weed control, Milestone herbicide provides superior broad leaf weed control with low use rates and Reduced Risk status. Milestone also provides tank mix flexibility for bare ground applications.

Milestone is a systemic, post emergent herbicide designed for the management of invasive species and broad-spectrum, broadleaf weed control for roadside, rights-of-way and other non-crop vegetation control. Aminopyralid, the active ingredient in Milestone, is an environmentally safe, easy-to-manage molecule that provides an effective, long lasting tool for managing difficult to control weeds in any weed control program. Milestone reduces environmental impact and is safe to use, with low use rates and buffer requirements that are significantly reduced. Milestone is a lower cost alternative to other weed control programs.

PRODUCT FEATURES

- Registered for roadside, rights-of-way and other non-crop uses.
- Post emergent control of a broad spectrum of difficult-to-control weeds.
- Reduced Risk Herbicide.
- Very low use rates.
- When used alone, Milestone has no 2,4-D odour.
- Residual control of many broadleaf weed species.
- Offers effective broadleaf bare ground control when tank mixed with labeled tank mix partners of Vantage™ Plus MAX II or Arsenal.

VEGETATION MANAGEMENT BENEFITS

Time Savings

- A single pass to manage difficult-to-control weeds simplifies management and saves time.
- Low use rates mean reduced packaging – fewer containers to ship and recycle.

Cost Savings

- Reduces or eliminates weed infestations and extends time between control cycles.

Low Environmental Impact

- Favourable environmental profile results in a lighter environmental footprint.
- Low use rates reduce environmental herbicide load.
- Pest Management Regulatory Agency (PMRA) Reduced Risk status gives confidence and peace of mind in management decisions.

WEED ACTIVITY

Milestone when applied at 0.5L/ha controls the following weeds:

- | | |
|-----------------------|------------------------------------|
| • Absinth wormwood | • Horsenettle |
| • Canada fleabane | • Perennial sowthistle |
| • Canadian goldenrod* | • Plumeless thistle |
| • Canada thistle | • Prickly lettuce |
| • Common ragweed | • Musk or nodding thistle |
| • Common tansy* | • Oxeye daisy ² |
| • Common yarrow* | • Scentless chamomile |
| • Cudweed | • Spotted knapweed |
| • Curly dock | • Tall buttercup |
| • Dandelion* | • Yellow star thistle ¹ |
| • Diffuse knapweed** | • Western ragweed |

*Suppression

¹ Yellow Star thistle: Apply to plants at the rosette through to bolting growth stage.

² Oxeye daisy: Apply to plants in the prebud stages of development.

³ Diffuse knapweed: Apply to plants in the bolting stage of development.

When tank-mixed with 2,4-D, Milestone has activity on all of the above plus the following weeds:

- | | |
|--------------------------|-------------------------|
| • Annual sow thistle | • Flixweed |
| • Bluebur | • Goat's beard |
| • Blue lettuce | • Gumweed |
| • Burdock (<4 leaf) | • Hawkweed |
| • Bull thistle | • Hoary cress |
| • Buttercup | • Peppergrass |
| • Cocklebur | • Perennial sow thistle |
| • Common plantain | • Ragweeds |
| • Common tansy | • Stinging nettle |
| • Curled dock (< 4 leaf) | • Sweet clover |
| • Dandelion | |

Refer to product label for complete use directions.

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Invasive Plant Management

Milestone can be used as an important tool in integrated vegetation management programs which are designed to restore desired plant communities and remove ecologically threatening invasive plants. A rapid response to early detection of new invasive plants is key to an overall invasive plant management strategy. Essential components to manage the spread and establishment of invasive plants are containment, eradication and control.

Milestone is labeled for invasive plant control at 0.5L/ha for the following invasive species:

- Bitter sneezeweed
- Bull thistle
- Common broomweed
- Fuller's teasel
- Hairy buttercup
- Hairy fleabane
- Russian knapweed²
- Sulphur cinquefoil¹
- Tall ironweed
- Tansy ragwort
- Tropic croton
- Tropical soda apple*

^{*}Tropical soda apple: apply to any growth stage but application by flowering will reduce seed production potential.

¹Sulfur cinquefoil: apply to plants in the pre-bud stage of development

²Russian Knapweed: apply to plants in the spring and summer in the bud to flower.

Individual plant or spot applications can be used to stop the spread of invasive plants. Thoroughly and uniformly wet the foliage of all target plants up to the point of run off.

Mixing Chart

Milestone Herbicide	Spray Solution (water and herbicide)
2.2ml-5ml	1L
22ml-50ml	100L
220ml-500ml	1000L

Use higher rate in the rate range when growing conditions are less favorable or when plant foliage is tall and dense.

BARE GROUND APPLICATION

When controlling vegetation where bare ground is desired, it is important that effective control is achieved with a single application. Vegetation control in and around oil and gas facilities, power and hydro facilities and rail lines is essential, if left unmanaged, unwanted vegetation can create serious operational, safety and fire hazards as well as creating ecological hazards with the potential spread of invasive species. Milestone provides effective, long lasting broadleaf weed control as a tank mix partner in bare

ground applications. Milestone can be tank mixed with glyphosate, Vantage™ Plus MAX II or Arsenal depending on the target species and desired vegetation control. Milestone offers a cost effective, option for bare ground tank mixes providing long lasting broadleaf weed control.



APPLICATION

Milestone is registered for ground, aerial and spot applications. Milestone can be applied at rates between 0.25 L/ha and 0.5 L/ha – with or without a tank mix



of 2,4-D, glyphosate, Vantage Plus MAX II or Arsenal depending on your vegetation control program and needs. Please consult the product label for all application details and restrictions.

BUFFER ZONES

For application to rights-of-way, buffer zones to sensitive terrestrial habitats are not required. However, buffer zones to sensitive aquatic habitats are required. Please consult the product label for more details and comply with all provincial regulations

ACTIVE INGREDIENT

Milestone contains the active ingredient aminopyralid which is a Group 4 growth regulator herbicide that provides an effective tool for managing difficult-to-control weeds using reduced application rates.

Although Milestone is primarily a post-emergent herbicide, it can provide extended control which reduces the time until there is a commercial need for re-treatment. The length of control will depend on the rate applied and the target weeds.

ABSORPTION AND TRANSLOCATION

Milestone is absorbed by leaves and roots, translocating throughout the plant and accumulating in meristematic tissues. This results in uneven cell division and growth, causing the plant to die.

HERBICIDAL ACTIVITY

Depending on the weed species, symptoms can appear within hours or days. Plant growth will stop within 24-48 hours after treatment. Most annual, susceptible weeds will be controlled within four weeks following application.

REDUCED RISK CLASSIFICATION

Milestone is a "Reduced-Risk" designated compound. This determination was made by the Pest Management Regulatory Agency (Health Canada) and the U.S. Environmental Protection Agency based on a favourable review of the properties of Milestone. Improved toxicological, ecotoxicological, and environmental fate effects make it a unique compound compared to the current industry standards.

TOXICOLOGY

Environmental Toxicology

Milestone is practically non-toxic to birds, fish, honeybees, earthworms and aquatic invertebrates.

Mammalian Toxicity

Milestone has low mammalian toxicity. The acute oral LD50 and dermal LD50 in rats were greater than 5,000 mg/kg, respectively. Milestone is not carcinogenic or mutagenic. It does not cause birth defects, neurological problems or any endocrine or adverse reproductive effects.

ENVIRONMENTAL FATE

Soil. Aerobic microbial degradation is the primary route of breakdown in soil. The rate of degradation in the field resulted in an average half-life of 35 days. Field experiments have shown limited movement in the soil profile and no degradation metabolites of concern were produced in any studies.

Water. The primary route of degradation in water is photolysis. The photolysis half-life is 0.6 days. There is low potential for groundwater contamination because of low use rates, favourable field degradation rates and limited mobility.

Air. Due to low vapour pressure, the potential for transport of Milestone is extremely low. However, as with any herbicide, susceptible non-target plants may be injured from physical spray drift.