

# Release silvicultural herbicide

Low environmental impact control of unwanted woody plants and broadleaf weeds.



Release\* is a silvicultural herbicide for the control of undesirable woody plants, annual and perennial broadleaf weeds in forest and woodland management areas. Controlling this vegetation helps foresters grow and maintain a healthy supply of trees, and enables sustainable use of the forest for logging, recreation and by wildlife.

Uses for Release include:

- Site preparation prior to planting coniferous crop trees.
- Eliminating competition for naturally regenerated or planted crop trees.
- Thinning established crop trees.
- Forest roadside vegetation control.

## What it controls

- Red alder
- Red maple
- Speckled alder
- Sugar maple<sup>1</sup>
- White ash
- Red oak
- Trembling aspen
- Balsam poplar
- White birch<sup>2</sup>
- Raspberry
- Pin cherry
- Salal<sup>3</sup>
- Bigleaf maple<sup>1</sup>
- Willow

<sup>1</sup> Best controlled with any one of the basal bark application methods.

<sup>2</sup> Best controlled with any one of the foliar application methods.

<sup>3</sup> Best controlled with broadcast foliar application.

## How it works

Release is a selective herbicide, which means it controls target plants while having little or no effect on other plants. When applied to leaves and stems, triclopyr uses the plant's own water and nutrient transportation system to move into the leaves and roots. It then initiates rapid mature cell growth, which causes cell walls to rupture. This hinders the plant's ability to move food and use energy from the leaves, causing the plant to die.

The plant growth regulation pathways affected by Release are found only in plants. The lack of effect on animals helps give Release a favorable environmental profile.

## Application methods and their advantages

Registered application methods include foliar (aerial broadcast or backpack low volume), and basal bark (stems or cut stumps). The label has details on specific rates, volumes and additional directions for each application method. (Also see Dow AgroSciences fact sheet for complete details on basal bark application).

Any of the registered application methods can be used for site preparation, regeneration release or thinning stands.

- Foliar applications are advantageous when:
  - Target species leaves are fully developed, soil moisture is adequate for normal plant growth and leaves have not begun autumn coloration.
  - Large areas need to be covered quickly.
  - Spray drift or proximity to sensitive areas is manageable.
  - Target species include trembling aspen or white birch.
- Basal bark applications where triclopyr penetrates the cambium region of the woody stem are advantageous when:
  - Site preparation, regeneration release or thinning needs to be done (including the dormant season). Basal bark applications are effective year-round provided there is no moisture or frost present on the stems.
  - Trained applicators are available for selective treatment of target species.
  - Spray drift or proximity to sensitive areas (e.g. water bodies and recreational areas) is a management concern.
  - Target species include sugar maple or bigleaf maple.

## Fate in soil

Release binds (adsorbs) to soil particles and following rainfall, tends to stay within 30 cm of the surface. There is little risk of triclopyr reaching groundwater, and it poses no significant environmental hazard due to leaching.

In the soil, Release undergoes degradation by soil micro-organisms (fungi and bacteria) and sunlight. Final breakdown products are carbon dioxide, water and organic acids. The average half-life of triclopyr in the soil is 30–46 days.

## Fate in water

Like most herbicides, Release is not approved for application to water surfaces, and should be kept out of lakes, ponds and streams. Always maintain all provincially mandated buffer zones on water bodies.

Even if Release does reach water, it dissipates through a variety of environmental processes that collectively remove it very rapidly. It can undergo simple hydrolysis in water to form triclopyr acid, which breaks down through exposure to ultraviolet rays in sunlight (photolysis).

## Environmental and wildlife impact

The plant diversity that results from herbicide methods increases food and ground cover for some wildlife populations, increasing animal diversity within the forestry site.

## Release toxicological information

The following detailed data can serve as guidelines for human and environmental safety. Always read and follow label directions to prevent unnecessary exposure.

### Oral toxicity

Oral toxicity is moderate. Although small amounts of Release swallowed incidental to handling are unlikely to cause injury, avoid contact with the mouth. Triclopyr, the active ingredient in Release has an Oral LD<sup>50</sup> of 1,581 mg/kg.

### Chronic toxicity to mammals

Long term testing has produced no evidence that triclopyr causes carcinogenic, mutagenic or teratogenic effects in mammals. Mammals do not metabolize triclopyr. If ingested, triclopyr is rapidly excreted unchanged. Animal studies have shown that triclopyr consumed in the diet will be cleared from the body within 3 days of intake, with no accumulation in the body organs or fat tissue.

## Skin contact

Skin contact is non-irritating. A single, prolonged exposure to undiluted Release is unlikely to be absorbed through the skin in harmful amounts. Prolonged or repeated exposure may cause allergic reactions in some individuals. No allergic skin reaction is expected with the product as diluted for use in the field. Wear personal protective equipment specified on the label to prevent unnecessary exposure.

## Eye contact

When handled in a manner consistent with proper operator-use procedures as specified on the product label, it is unlikely that undiluted Release will come in contact with eyes. If however undiluted Release does come in contact with eyes, it may cause a slight, temporary irritation (flush eyes with plenty of water and seek medical attention).

## Toxicity to aquatic organisms

Under proper operator-use procedures as specified on the product label, Release poses no threat to aquatic organisms. Triclopyr acid has a very low toxicity to aquatic organisms. However when formulated as Release, triclopyr ester has a higher toxicity, in water it rapidly degrades to triclopyr acid through hydrolysis and photolysis. Triclopyr acid is practically non-toxic. Release is not labelled for application to water surfaces.

## Superior service and support

Release is a product you can use with confidence, because we at Dow AgroSciences strive to reduce risk and continuously improve through effective management systems. Our Emergency Response Tech Advisors are on call 24 hours a day 7 days a week in the unlikely event of an emergency. Effective management includes container recovery, product and distributor reviews, and corrections regarding the misuse and mishandling of product.

## What else do you need?

For even more information on how Dow AgroSciences can meet your silvicultural herbicide needs, visit our website at [www.dowagro.ca](http://www.dowagro.ca).

