

clethodim

ALWAYS READ AND FOLLOW THE LABEL

Information on this page is not to be substituted for label directions

Active Ingredient (a.i.):
clethodim

Target Pest Category:
herbicide

Examples of Trade Names:
Select, Centurion, Compass

Chemical Family:
Clethodim is in the chemical family of Cyclohexanediones.

Types of Formulation:
emulsifiable concentrate



What it is:

Systemic post-emergence herbicide that is rapidly absorbed and readily translocated from treated foliage to the roots and growing plant parts.

How it works (Mode of Action):

Clethodim is a lipid (fatty acid) inhibitor. Plant lipids (fats) are vital to the integrity of cell membranes and to new plant growth. Broadleaf plants are tolerant to this herbicide family, but a wide range of perennial and annual grasses are susceptible.

Toxicity based on pure active ingredient:

Species	LD ₅₀ /LC ₅₀	Relative Toxicity
Mammal (female rat)	LD ₅₀ Oral : 2920 mg/kg	Slightly toxic
Mammal (rabbit)	LD ₅₀ Dermal: >5000 mg/kg	Slightly toxic
Bird (quail)	LD ₅₀ >2000 mg/kg	Practically non-toxic
Bees (contact)	LD ₅₀ >100 µg/bee	Practically non-toxic
Fish (trout) (96 hour)	LC ₅₀ 67mg/L	Slightly toxic
Worms (14 days)	LC ₅₀ 454 mg/kg soil	-

*For description of relative toxicity categories please click [here](#).

What it controls:

Post-emergence control of annual and perennial grasses, in a wide range of broad leaved field crops (including flax, sunflowers, seedling alfalfa, oilseed rape, sugar beet, and potatoes), depending on product label.

How long it takes/Expected Results:

Clethodim is taken up by the foliage and moves in the phloem to areas of new growth. It penetrates the cuticle within 1 hr of application. Injury symptoms are slow to develop (seven to 10 days) and appear first on new leaves emerging from the whorl of the grass plant. Susceptible grasses that are actively growing will undergo burnback and a colour change (green-yellow-purple-brown) after treatment. Complete control requires 7 to 21 days, depending on growing conditions and crop competition.

Application Timing:

- Apply when annual grasses and volunteer cereals are in the 2-6 leaf stage.

Mixing Instructions:

- Should be used with a nonphytotoxic crop oil concentrate.
- Clethodim is very well-tolerated by broad-leaved crops, showing little if any phytotoxic effect. Please refer to the label for further mixing instructions.
- Allow 4 days between application and any other chemical not recommended as a tank-mix combination.

Application Tips:

- Thorough preplant tillage operations are required to fields where sod or forage grass crops may have been grown the previous year.
- Avoid sprayer overlap. Do not apply more than 0.5 L/ha (120 grams a.i./ha) per season.

Resistance Management:

- Clethodim is a Group 1 Herbicide in the resistance management groupings. Use herbicide and crop rotation strategies to prevent or delay herbicide resistance.

Integrated Pest Management:

- Clethodim is practically non-toxic to honeybees with minimal hazard to nontarget and endangered beneficial insects, birds, freshwater fish and mammals.
- Clethodim is selectively toxic to plants, affecting only grass species.

Restrictions:

- DO NOT APPLY BY AIR. Use ground equipment only with buffer zones.
- Do NOT use crops for grazing of livestock or green feed following application until after the 60 day pre-harvest interval has been observed.

Unique Characteristics/Special Instructions:

- Phytotoxicity: Good tolerance in broad-leaved crops.
- Rainfall within one hour of application may reduce the effectiveness of the spray.

Pesticide Labels:

- To find labels for pesticides registered in Canada, please link to the Pest Management Regulatory Agency (PMRA) label search web page:
<http://www.eddenet.pmra-arla.gc.ca/4.0/4.01.asp>

Storage:

- Store in the closed original container.
- Do NOT store at temperatures below 0°C. Shake well before using.
- Do not ship or store near food, feed, seed and fertilizers.

Applicator Safety and Re-entry:

- When handling, mixing, loading or during cleanup and repair, wear protective clothing.
- This product contains a petroleum distillate, in case of accidental swallowing, DO NOT induce vomiting.

Environmental Considerations:

- Clethodim is generally non-persistent in soils with a half-life of approximately three days.
- Clethodim may be somewhat mobile in the soil environment but does not appear to threaten groundwater
- Clethodim may be highly persistent in the aquatic environment.