

Environmental toxicity

Picloram and its salts have low toxicity to aquatic life and are not toxic to earthworms, bees and terrestrial arthropods.

Aminopyralid and its salts are not toxic to bees, earthworms, terrestrial arthropods fish or aquatic invertebrates and have low toxicity to aquatic plants.

Picloram and aminopyralid do not accumulate in aquatic or terrestrial food chains.

Poisonous plants

Vigilant II is not toxic to grazing livestock, however poisonous plants may become more palatable after spraying with herbicides and stock should be kept away from these plants until they have died down.

Burning treated vegetation

Picloram and aminopyralid in plant tissue are destroyed when treated vegetation is cleared by burning.

Human health and safety

Vigilant II has low toxicity if swallowed, and small amounts swallowed incidentally as a result of normal handling are not likely to cause injury.

The product may cause eye irritation if the gel comes into contact with the eyes. Otherwise, accidental exposure to Vigilant II should not result in any harm to the user. Picloram and aminopyralid are not carcinogenic (do not increase tumors), are not mutagenic (do not damage genetic material) and are not teratogenic (do not harm the unborn).

Conclusion

The behaviour of Vigilant II in the environment and the low order of toxicity to mammals and wildlife indicates no undue hazards when applied for the control of weeds.

However, like all agricultural chemicals it should be applied in a responsible manner.

Throughout Australia there are great variations in climate soil type, vegetation, topography and land use. All of these have an effect on the impact of chemicals in the environment.

Any persons having questions on the possible effects of any Corteva Agriscience product should contact our customer service team, toll free on 1800 899 147.



Vigilant® II Herbicide

Health and safety profile



Vigilant® II
HERBICIDE



Vigilant® II Herbicide is a gel herbicide designed for use in sensitive noncropping such as native vegetation, conservation areas, reserves and parks, where minimal impact to the environment and non-target plants is desirable. It is used in Australia to control a wide range of woody weeds and rhizomatous plants by direct application to cut stems or blazes. Vigilant II is also used to control herbaceous weeds through application of the gel directly to plant leaf surfaces.

This brochure is a general guide on the toxicity and behaviour of Vigilant II in the environment when used for weed control. Detailed information on rates of application and directions for use are set out on the product label.

Chemical characteristics

Vigilant II is a water soluble gel formulation that contains 44.7 g/L picloram present as the potassium salt and 4.47 g/L aminopyralid present as triisopropanolamine salt.

Both the salts in the formulation rapidly convert to the parent acids picloram and aminopyralid once in soil, water, plants and animals so it is the properties of these chemicals which are important in health and environmental behavior.

Picloram and aminopyralid are members of the pyridine carboxylic acid family of chemistry. This class of chemistry is known to possess auxinlike properties, where the herbicide binds to protein receptor sites that normally regulate plant processes.

Picloram and aminopyralid are rapidly absorbed by the leaves and roots, move systemically throughout the target plant in the xylem and phloem and accumulate in the meristematic tissue, where the compounds deregulate growth metabolic pathways. The disruption of these

pathways causes deregulated plant growth and symptoms in susceptible plants such as thickened, curved and twisted shoots, stems and leaves, and cupping and crinkling of leaves.

Environmental fate characteristics

Behaviour in soil

Picloram degradation in soil is rate dependent. It has an average soil half-life of 90 days, hence it is persistent in the soil. Microbial breakdown is the primary mode of degradation, therefore breakdown is more rapid under warm, moist high organic matter soil conditions.

Movement in soil is dependent upon precipitation, soil texture, and organic matter; leaching potential is greatest in sandy soils low in organic matter, however it typically remains in the top 30 cm of the soil.

Aminopyralid is somewhat persistent in soil with an average half-life of about 35 days. Breakdown is via microbial degradation. Field experiments show it has limited potential for mobility in soil.

Behaviour in surface water

In the presence of water, picloram and aminopyralid are broken down quickly by sunlight and microorganisms. Half the picloram will dissipate in 5–10 days. Half the aminopyralid will dissipate in less than one day.

Product use stewardship

Aminopyralid and picloram on treated foliage that is grazed by animals will pass through the digestive system and remain active in the manure. The residues in manure may cause injury to broadleaf plants including vegetables and ornamentals.



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