

Aminopyralid ESRA

Environmental Assessment

Pesticide:	Aminopyralid		<u>Specific Formulation:</u>
Hazard Status:	Aminopyralid is not considered a highly hazardous pesticide (HHP) per the FSC Pesticides Policy (FSC-POL-30-001 V3-0 EN) and the FSC Lists of Highly Hazardous Pesticides (FSC-POL-30-001a EN).		DISCLAIMER: Adoption or adaption of this assessment alone does not guarantee compliance with FSC-POL-30-001 V3-0
Exposure Elements	Minimum list of values	Description of why/why not a risk on the Management Unit	Management Unit Mitigation strategies defined to minimize risk
Environmental	Soil (erosion, degradation, biota, carbon storage)	<p>Minimal indication of adverse effects to soil was found when aminopyralid is used according to label instructions in forestry applications. Additional considerations are provided below.</p> <p>Limited information is available on the toxicity of aminopyralid to soil biota, but based on bioassays in earthworms and soil microorganisms, aminopyralid does not appear to be very toxic to terrestrial invertebrates or soil microorganisms.¹</p>	<p>Follow all pesticide label application instructions. Follow applicable criterion and indicators from the FSC US FM Standard V1.0 (e.g., Criterion 4.3 for worker safety, Criterion 7.3 for worker training, Criterion 6.5 for protecting water resources, and Criteria 8.1 and 8.2 for Monitoring). Applicators or persons supervising application of restricted use pesticides are required to be certified in accordance with EPA regulations and state, territorial and tribal laws. Additional risk mitigation strategies are provided below.</p> <p>Organizations should take reasonable steps to avoiding environmental and social impacts by considering the mitigation strategies provided below as well as application-, Organization-, or location-specific strategies.</p>
	Water (ground water, surface waters, water supplies)	<p>Based on the chemical characteristics of aminopyralid, there is a potential for adverse effects on water when used according to label instructions for forestry applications.</p> <p>Aminopyralid is highly water soluble and mobile in soil, so is likely to leach into groundwater and may be carried into surface water via runoff.²</p> <p>Expected environmental concentrations in water following forestry applications are well below those associated with any adverse effects to aquatic or terrestrial organisms, including aquatic plants.¹ However, data on amphibians are very limited.</p>	

	<p>Atmosphere (air quality, greenhouse gasses)</p>	<p>Minimal indication of adverse effects to atmosphere was found when aminopyralid is used according to label instructions in forestry applications.</p>	<p>General consideration of exposure variables designed to mitigate risk:</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Environmental</p>	<p>Non-target species (vegetation, wildlife, bees and other pollinators, pets)</p>	<p>Nontarget plants that are sensitive to aminopyralid (mainly dicots) may be adversely affected by aminopyralid when used according to label instructions for forestry applications.¹</p> <p>EPA classifies aminopyralid as practically non-toxic to both freshwater and estuarine/marine fish and amphibians on an acute exposure basis.³</p> <p>There is no indication that other groups of organisms will be adversely affected by aminopyralid. These other groups include tolerant species of terrestrial plants (such as grasses), aquatic plants (algae or macrophytes), mammals, birds, aquatic or terrestrial invertebrates, terrestrial microorganisms, fish, and amphibians.¹</p> <p>The only risks of concern identified by EPA are to non-target terrestrial plants that are sensitive to aminopyralid.⁵</p> <p>Secondary effects to habitats and food availability could occur, which would affect virtually all nontarget organisms. These secondary effects could be either detrimental or beneficial to affected species.¹</p>	<p>-Know and understand the specific pesticide formulation and/or tank mixture, as its unique formulation may provide a different risk characterization.</p> <p>-Understand how the mixture of active ingredients affects the pesticides risk profile.</p> <p>-Seek to minimize the frequency, interval, and amount of application.</p> <p>-Use the most efficient and effective method of application by seeking to minimize risk to environmental and social values.</p> <p>-Understand the site (e.g., soil type, topography, etc.) and climatic (e.g., wind, temperature, and humidity) conditions and the likely effect on risk to environmental and social values.</p> <p>-Have appropriate waste management systems in place.</p> <p>Mitigation of Risk to the Environment:</p> <p>Do not apply directly to water. Take care to minimize the incidental overspray along the shoreline when applying to terrestrial plants at the water's edge or to water in areas where surface water is present. Do not apply directly to intertidal areas below the mean high-water mark. Do not contaminate water when disposing of equipment washwater or rinsate.⁴</p>
	<p>Non-timber forest products (as FSC-STD-01-001 V5-2 FSC Principles and Criteria, criterion 5.1)</p>	<p>Minimal indication of adverse effects to non-timber forest products was found when aminopyralid is used according to label instructions in forestry applications. Additional considerations are provided below.</p> <p>Secondary effects to habitats and food availability could occur, which would affect virtually all nontarget organisms. These secondary effects could be either detrimental or beneficial to affected species.¹</p>	<p>This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Application around a cistern or well may result in contamination of drinking water or groundwater.⁴</p>

	<p>High Conservation Values (particularly HCV 1-4)</p>	<p>Minimal indication of adverse effects to high conservation values was found when aminopyralid is used according to label instructions in forestry applications. Additional considerations are provided below.</p> <p>Unintentional secondary effects on habitat, landscape and ecosystem are possible due to changes in vegetation¹.</p>	<p>Spray Drift Management:⁴</p> <p>-Avoid application under conditions that may allow spray drift because very small quantities of spray, which may not be visible, may injure susceptible crops. This product should be applied only when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, non-target crops, and other plants) is minimal (e.g., when wind is blowing away from the sensitive areas). A drift control aid may be added to the spray solution to further reduce the potential for drift. If a drift control aid is used, follow the use directions and precautions on the manufacturer's label.</p> <p>-An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.</p> <p>-With ground equipment, spray drift can be lessened by keeping the spray boom as low as possible, by applying 10 gallons or more of spray per acre, by keeping the operating spray pressures at the manufacturer's specified minimum pressures for the specific nozzle type used (low pressure nozzles are available from spray equipment manufacturers), and by spraying when the wind velocity is low (follow state regulations).</p> <p>-Avoid calm conditions which may be conducive to thermal inversions.</p> <p>-With ground equipment, direct sprays no higher than the tops of target vegetation and keep spray pressures low enough to provide coarse spray droplets to minimize drift.</p> <p>- In aerial application, avoid spray drift at the application site. The interaction of many equipment-related and weather-related factors</p>
	<p>Landscape (aesthetics, cumulative impacts)</p>	<p>Minimal indication of adverse effects to landscape values was found when aminopyralid is used according to label instructions in forestry applications. Additional considerations are provided, below.</p> <p>Unintentional habitat/ landscape effects are possible, primarily due to changes in vegetation¹.</p>	
	<p>Ecosystem services (water, soil, carbon sequestration, tourism)</p>	<p>Minimal indication of adverse effects to ecosystem services was found when aminopyralid is used according to label instructions in forestry applications. Additional considerations are provided, below.</p> <p>Unintentional habitat/landscape/ecosystem effects are possible, primarily due to changes in vegetation¹.</p>	

determine the potential for spray drift. Users are responsible for considering all these factors when making decisions.

-In aerial applications, the following drift management requirements must be followed to avoid off-target drift movement from aerial applications:

1. The boom length must not exceed 75% of the fixed wingspan and must be located at least 8 to 10 inches below the trailing edge of the fixed wing; the boom length must not exceed 85% of the rotary blade.

2. Nozzles should be pointed backward parallel with the air stream or not pointed downward more than 45 degrees.

-State and local regulations must be followed.

The applicator should be familiar with, and take into account, the information covered in the following Aerial Drift Reduction Advisory.

-This information is advisory in nature and does not supersede mandatory label requirements.

Use Precautions:⁴

- Applications made during periods of intense rainfall, to soils saturated with water, surfaces paved with materials such as asphalt or concrete, or soils through which rainfall will not readily penetrate, may result in runoff and movement of aminopyralid. Injury to crops may result if treated soil and/or runoff water containing aminopyralid is washed or moved onto land used to produce crops. Exposure to aminopyralid may injure or kill susceptible crops and other plants.

Social Assessment

Pesticide:	Aminopyralid		<u>Specific Formulation:</u>
Hazard Status:	Aminopyralid is not considered a highly hazardous pesticide (HHP) per the FSC Pesticides Policy (FSC-POL-30-001 V3-0 EN) and the FSC Lists of Highly Hazardous Pesticides (FSC-POL-30-001a EN).		DISCLAIMER: Adoption or adaption of this assessment alone does not guarantee compliance with FSC-POL-30-001 V3-0
Exposure Elements	Minimum list of values	Description of why/why not a risk on the Management Unit	Management Unit Mitigation strategies defined to minimize risk
	High Conservation Values (especially HCV 5-6)	<p>Minimal indication of adverse effects to high conservation values was found when aminopyralid is used according to label instructions in forestry applications. Additional considerations are provided below.</p> <p>Unintentional secondary effects on habitat, landscape and ecosystem are possible due to changes in vegetation¹.</p>	<p>Mitigating Risk to Workers: <i>When applying pesticides, label instructions should be followed.</i></p> <p>Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170.⁴</p> <p>Personal Protective Equipment (PPE)⁴</p>
	Health (fertility, reproductive health, respiratory health, dermatologic, neurological and gastrointestinal problems, cancer and hormonal imbalance)	<p>Minimal indication of adverse effects to human health was found when aminopyralid is used according to label instructions in forestry applications. Additional considerations are provided below.</p> <p>Can cause moderate eye irritation.⁴</p> <p>Post-application exposures to individuals, including children, as a result of being in an environment previously treated with aminopyralid, are not of concern.⁵</p> <p>Short-and intermediate-term inhalation risks for occupational handlers are not of concern.⁵</p> <p>In studies, aminopyralid has shown no evidence of neurotoxicity or of developmental or reproductive toxicity and is not likely to be carcinogenic to humans.³</p> <p>EPA did not identify any human health risks of concern from any use.⁵</p>	<p>Applicators and other handlers must wear:</p> <ul style="list-style-type: none"> • Long-sleeved shirt and long pants • Shoes plus socks <p>Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.</p> <p>Users should:⁴</p> <ul style="list-style-type: none"> • Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. • Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. • Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Social	Welfare	Minimal indication of adverse effects to welfare was found when aminopyralid is used according to label instructions in forestry applications.	<p>Entry Restrictions:⁴</p> <p>Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 hours.</p> <p>PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:</p> <ul style="list-style-type: none"> • Coveralls • Chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride • Shoes plus socks • Protective eyewear <p>Mitigating Risk to Public Access/Public Welfare:</p> <p>-Reduce the possibility of public consumption of contaminated wild food (e.g., fruit or fungi) and public exposure to pesticides through public outreach and engagement, limiting access, and/or appropriate signage. For instance, users of the forest may be excluded from the area using barriers or signage until the pesticide dries.</p> <p>-Consider effects on local communities and indigenous peoples when considering limiting access to treatment areas.</p> <p>-Do not allow children or pets to enter the treated area until it has dried.</p>
	Food and water	<p>Minimal indication of adverse effects to food and water was found when aminopyralid is used according to label instructions in forestry applications.</p> <p>The risk of contact with contaminated vegetation, fruit, and water does exist, but even in a hypothetical scenario of long-term consumption of contaminated vegetation following applications at the highest allowed rate, exposures are below the level of concern.¹</p>	
	Social Infrastructure; (schools and hospitals, recreational infrastructure, infrastructure adjacent to the management unit)	<p>Minimal indication of adverse effects to social infrastructure was found when aminopyralid is used according to label instructions in forestry applications.</p>	
	Economic viability (agriculture, livestock, tourism)	<p>Minimal indication of adverse effects to economic viability was found when aminopyralid is used according to label instructions in forestry applications. However, additional considerations are provided below.</p> <p>There is a potential for spray drift to adversely affect sensitive terrestrial plant species.¹</p> <p>Given the lack of evidence for adverse effects on animals¹, there is low risk for economic viability of livestock or tourism.</p>	

	Rights (legal and customary)	Minimal indication of adverse effects to rights was found when aminopyralid is used according to label instructions in forestry applications.	Storage and Disposal:⁴ Do not contaminate water, food, feed, or fertilizer by storage or disposal. Open dumping is prohibited. Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.
	Others	No additional values were identified in this assessment.	

¹ Aminopyralid Human Health and Ecological Risk Assessment – Final Report, Prepared for: USDA/Forest Service and National Park Service by Patrick R. Durkin, Syracuse Environmental Research Associates, Inc. Available online:

https://www.fs.fed.us/foresthealth/pesticide/pdfs/062807_Aminopyralid.pdf Last accessed October 26, 2021.

²Environmental Fate and Ecological Risk Assessment for the Registration of Aminopyralid. May 2005. EPA Office of Prevention, Pesticides, and Toxic Substances. Available online: https://www3.epa.gov/pesticides/chem_search/cleared_reviews/csr_PC-005100_10-May-05_a.pdf Last accessed October 26, 2021.

³ Aminopyralid: Draft Ecological Risk Assessment for Registration Review. June 30, 2020. EPA Office of Chemical Safety and Pollution Prevention. Available online: <https://www.regulations.gov/document/EPA-HQ-OPP-2013-0749-0048> Last accessed October 26, 2021.

⁴ Specimen Label, Corteva Agriscience, Milestone Herbicide Available online: <http://www.cdms.net/ldat/ld77N015.pdf> Last accessed October 26, 2021.

⁵EPA Aminopyralid Interim Registration Review Decision, September 21, 2021, Docket Number EPA-HQ-OPP-2013-0749, Available online: <https://www.regulations.gov/document/EPA-HQ-OPP-2013-0749-0145> Last accessed October 26, 2021.