Product Safety Assessment

Aminopyralid

Select a Topic:

Names
Product Overview
Manufacture of Product
Product Description
Product Uses
Exposure Potential
Health Information
Environmental Information
Physical Hazard Information
Regulatory Information
Additional Information
References

Names

- CAS No. 150114-71-9
- Aminopyralid
- Aminopyralid Technical
- Banish™ herbicide
- 4-amino-3,6-dichloro-2-pyridinecarboxylic acid (CAS)
- 4-amino-3,6-dichloropyridine-2-carboxylic acid (IUPAC)
- Milestone™ herbicide
- ForeFront™ herbicide

Product Overview

- Aminopyralid is an off-white, odorless powder that is soluble in water.¹ See Product Description.
- Aminopyralid is the active ingredient in a series of herbicides (weed killers) formulated by Dow AgroSciences, a subsidiary of The Dow Chemical Company (“Dow”).² Aminopyralid formulations are sold under various trade names including Banish™ herbicide, Milestone™ herbicide, and ForeFront™ herbicide. These formulations are non-restricted use herbicides that provide reliable control of a broad spectrum of difficult-to-control noxious weeds and invasive plants on rangeland and pastures, rights-of-way, and wildlife habitat areas.³ See Product Uses.
- Eye contact with aminopyralid may cause severe irritation with corneal injury. Prolonged skin contact with aminopyralid is essentially nonirritating and unlikely to result in absorption of harmful amounts. Aminopyralid has very low toxicity if swallowed. Inhalation of aminopyralid dust is not likely to cause adverse effects.⁴ See Health Information.
- Occupational exposure to aminopyralid could occur in manufacturing or formulating operations during maintenance, sampling, testing, or other procedures. Agricultural workers and grounds keepers using aminopyralid could be exposed during field application. Workers using aminopyralid must wear proper protective equipment and follow label instructions carefully. Aminopyralid is not available for home use. Two possible routes of consumer exposure are defined in a United States Environmental Protection Agency (EPA) report: 1) dietary exposure from food and drinking water, and 2) incidental exposure to children upon eating grass or soil from treated campgrounds. The EPA concludes “there is reasonable certainty that no harm will come from aggregate [cumulative] exposure to aminopyralid residues.”⁵ See Exposure Potential.
- Aminopyralid is stable under normal storage conditions.⁶ See Physical Hazard Information.

Back to top

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Created: March 27, 2008 The Dow Chemical Company Page 1 of 5
Manufacture of Product
Dow AgroSciences is currently the only producer of aminopyralid globally. Aminopyralid is manufactured and formulated in Midland, Michigan.

Product Description
Aminopyralid is the common name for the active ingredient in a series of herbicides (weed killers) formulated by Dow AgroSciences, a subsidiary of Dow. Aminopyralid is an off-white odorless powder that is 95.3% pure, the balance being a related compound. Aminopyralid dissolves readily in water and is nonvolatile (does not evaporate). Dow AgroSciences sells aminopyralid formulations under various trade names including Banish™ herbicide, Milestone™ herbicide, and ForeFront™ herbicide. These products selectively target undesirable broadleaf weeds. Aminopyralid is a systemic herbicide; it interrupts the internal growth process of established weeds resulting in death. Aminopyralid was accepted for registration under the U.S. Environmental Protection Agency’s (EPA) Reduced Risk Pesticide program. Aminopyralid is not a restricted-use pesticide.

Product Uses
Aminopyralid is a non-restricted use herbicide used to control a number of broadleaf weed species. Applications for aminopyralid include:
- Rangeland
- Permanent grass pastures
- Non-crop land areas such as rights-of-way, roadsides, and non-irrigation ditch banks
- Natural areas such as wildlife management areas, natural recreation areas, campgrounds, trailheads, and trails
- Wheat fields

Aminopyralid is particularly effective for the control of tropical soda apple, musk thistle, Canada thistle, spotted knapweed, diffuse knapweed, yellow starthistle, and Russian knapweed.

Exposure Potential
Based on the uses for aminopyralid, the public could be exposed through:
- **Workplace exposure** – Exposure can occur in an aminopyralid manufacturing or formulating facility. Workers could be exposed during maintenance, sampling, testing, or other procedures. Each manufacturing and formulating facility should have a thorough training program for employees and appropriate work processes and safety equipment in place to limit unnecessary exposure. Agricultural workers and grounds keepers could be exposed to aminopyralid during field application. Wearing proper protective equipment and following label instructions will reduce risk of exposure. See Health Information.
- **Consumer exposure to products containing aminopyralid** – Aminopyralid is not available for home use. Two possible routes of consumer exposure are defined in an EPA report: 1) dietary exposure from food and drinking water and 2) incidental exposure to children upon eating grass or soil from treated campgrounds. The EPA concludes that there is “reasonable certainty that no harm will come from aggregate [cumulative] exposure to aminopyralid residues.” See Health Information.
- **Environmental releases** – For small spills, wear suitable protective clothing and eye protection to prevent skin and eye contact. Sweep up small spills and place material in a
suitable container for disposal. Wash exposed body areas thoroughly after handling. Consult the product label for more information about protective equipment and procedures. See Environmental, Health and Physical Hazard Information.

- **Large release** – In the event of a large spill, prevent material from reaching irrigation ditches, sewage systems, and/or groundwater. Personnel engaged in clean up of spills should observe proper skin and eye protection practices. Report large spills to Dow AgroSciences immediately at 800-992-5994 or visit [www.dowagro.com/rc/response/](http://www.dowagro.com/rc/response/) to access Dow AgroSciences in a specific geographic area. Consult the product label for more information about protective equipment and procedures. In case of fire, self-contained breathing apparatus (SCBA) and full protective clothing must be worn. Fight fire with foam, carbon-dioxide, or dry-chemical fire extinguisher. Use of uncontrolled water stream can spread possible contamination. See Environmental, Health and Physical Hazard Information.

For more information, see the relevant Safety Data Sheet.

**Back to top**

**Health Information**

**Eye and Skin Contact**

Eye contact with aminopyralid may cause severe irritation with corneal injury, which may result in permanent impairment of vision, even blindness. Chemical burns may occur. Prolonged skin contact with aminopyralid is essentially nonirritating and is unlikely to result in absorption of harmful amounts.

**Ingestion**

Aminopyralid has very low toxicity if swallowed, and no harmful effects are expected from swallowing small amounts.

**Inhalation**

Brief exposure to aminopyralid dust is not likely to cause adverse effects.

**Cancer and Birth Defect Information**

In animal studies, aminopyralid did not cause cancer or birth defects in laboratory animals.

For more information, see the relevant Safety Data Sheet.

**Back to top**

**Environmental Information**

Based on laboratory test guidelines, aminopyralid cannot be considered as readily biodegradable. However, field studies showed aminopyralid is likely to be non-persistent and relatively immobile. Aminopyralid is practically nontoxic to birds, fish, honeybees, earthworms, and aquatic invertebrates. Aminopyralid is slightly toxic to aquatic organisms on an acute basis.

For more information, see the relevant Safety Data Sheet.

**Back to top**

**Physical Hazard Information**

Aminopyralid is stable under normal storage and use conditions. Products of combustion may include toxic gases.

For more information, see the relevant Safety Data Sheet.
Product Safety Assessment: Aminopyralid

Regulatory Information
Regulations may exist that govern the manufacture, sale, transportation, use, and/or disposal of aminopyralid. These regulations may vary by city, state, country, or geographic region. Information may be found by consulting the relevant Safety Data Sheet.

Back to top

Additional Information
- Safety Data Sheet (http://www.dowagro.com/label/index.htm)
- Dow AgroSciences website: Range and Pasture, Milestone™ Herbicide (http://www.dowagro.com/range/products/milestone.htm)
- Milestone Herbicide Fact Sheet, Dow AgroSciences, April 2006 (http://www.dowagro.com/PublishedLiterature/dh_0076/0901b80380076e5f.pdf?filepath=/PublishToInternet/InternetDOWAGRO/range/pdfs/noreg/010-56950)
- Aminopyralid Technical Bulletin, Dow AgroSciences, Form No. 010-50433, January 2005

For more business information about aminopyralid, visit the Dow AgroSciences website. (www.dowagro.com)

Back to top

References
1 Aminopyralid Technical Herbicide, Material Safety Data Sheet, Dow AgroSciences, MSDS: 007930, April 18, 2005, page 2.
2 Dow AgroSciences website: Range and Pasture, Milestone Herbicide. (http://www.dowagro.com/range/products/milestone.htm)
9 Milestone Herbicide Fact Sheet, Dow AgroSciences, April 2006, pages 1-2. (http://www.dowagro.com/PublishedLiterature/dh_0076/0901b80380076e5f.pdf?filepath=/PublishToInternet/InternetDOWAGRO/range/pdfs/noreg/010-56950)
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