

Crowfoot Valley Ranch Metropolitan District No.1 and 2 – Weed Control Information

Colorado has established noxious weed laws to limit the spread of invasive species and preserve the native environment. These laws require land managers such as HOAs and Metropolitan Districts to actively manage noxious weeds. Weed management is an ongoing requirement to ensure that we can continue to enjoy our beautiful open spaces and preserve property values.

Our landscape vendor performs multiple applications of herbicide during a season, starting in the spring with a pre-emergent weed spray, and further applications throughout the growing season. The District's landscape service contract does not include hand-pulling of weeds in open space areas (only in planted landscape beds), as the hundreds of acres of open space make this cost-prohibitive.

These treatments are chosen for their ability to effectively kill undesirable plants, and have been extensively tested for adverse effects on humans, animals, birds, insects, aquatic species, and other environmental factors. Application technicians are responsible for using herbicides in compliance with the product label, which is a legal document attached to every herbicide container. The risk of acute or chronic injury to humans, pets, or wildlife is quite low – well within the range of other normal daily activities.

Once the product is dry, is safe for exposure to humans or pets. It dries very quickly, especially in warm temperatures, but may take up to several hours depending on conditions. We recommend keeping children and pets away from the treated areas until the herbicide has completely dried. Small yellow warning flags are displayed for at least 24 hours in the treated areas. For those who are very sensitive to odors, the smell should dissipate quickly.

See the Safety Data Sheets below for more information.

SAFETY DATA SHEET

according to the Hazardous Products Regulations



MILESTONE™ Herbicide

Version 2.0 Revision Date: 03/13/2025 SDS Number: 800080004418 Date of last issue: 09/29/2022
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Corteva Agriscience™ encourages you and expects you to read and understand the entire SDS as there is important information throughout the document. This SDS provides users with information relating to the protection of human health and safety at the workplace, protection of the environment and supports emergency response. Product users and applicators should primarily refer to the product label attached to or accompanying the product container. This Safety Data Sheet adheres to the standards and regulatory requirements of Canada and may not meet the regulatory requirements in other countries.

SECTION 1. IDENTIFICATION

Product name : MILESTONE™ Herbicide
Other means of identification : No data available

Manufacturer or supplier's details

COMPANY IDENTIFICATION

Manufacturer/importer : CORTEVA AGRISCIENCE CANADA COMPANY
SUITE 240, 115 QUARRY PARK RD. SE
CALGARY AB, T2C 5G9
CANADA

Customer Information : 800-667-3852
Number
E-mail address : solutions@corteva.com

Emergency telephone : Corteva Canada Solutions: 1-800-667-3852
number

Recommended use of the chemical and restrictions on use

Recommended use : End use herbicide product

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
Aminopyralid Triisopropanolamine Salt	Aminopyralid Triisopropanolamine Salt	566191-89-7	40.64
1,1',1'-nitritotripropan-2-ol	1,1',1'-nitritotripropan-2-ol	122-20-3	$\geq 1 - < 5$ *
Balance	Balance	Not Assigned	> 50

* Actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

If inhaled : Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.

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In case of skin contact	:	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
In case of eye contact	:	Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.
If swallowed	:	No emergency medical treatment necessary.
Most important symptoms and effects, both acute and delayed	:	None known.
Protection of first-aiders	:	If potential for exposure exists refer to Section 8 for specific personal protective equipment.
Notes to physician	:	No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water spray Alcohol-resistant foam
Unsuitable extinguishing media	:	None known.
Specific hazards during fire-fighting	:	Exposure to combustion products may be a hazard to health.
Hazardous combustion products	:	During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon oxides Nitrogen oxides (NOx) Hydrogen chloride gas
Specific extinguishing methods	:	Remove undamaged containers from fire area if it is safe to do so. Evacuate area. Use water spray to cool unopened containers.
Further information	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.
Environmental precautions	:	Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so.

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Prevent spreading over a wide area (e.g. by containment or oil barriers).
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up : Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in.
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped,
Recovered material should be stored in a vented container. The vent must prevent the ingress of water as further reaction with spilled materials can take place which could lead to over-pressurization of the container.
Keep in suitable, closed containers for disposal.
Wipe up with absorbent material (e.g. cloth, fleece).
See Section 13, Disposal Considerations, for additional information.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Do not breathe vapours/dust.
Handle in accordance with good industrial hygiene and safety practice.
Smoking, eating and drinking should be prohibited in the application area.
Take care to prevent spills, waste and minimize release to the environment.
Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Conditions for safe storage : Store in a closed container.
Keep in properly labelled containers.
Store in accordance with the particular national regulations.

Materials to avoid : Strong oxidizing agents

Packaging material : Unsuitable material: None known.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
1,1',1'-nitilotripropan-2-ol	122-20-3	TWA	10 mg/m3	Corteva OEL

Engineering measures : Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations.
Local exhaust ventilation may be necessary for some operations.

Personal protective equipment

Respiratory protection : Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines.
If there are no applicable exposure limit requirements or

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Hand protection	guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator.
Remarks	: Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized.
Eye protection	: Use safety glasses (with side shields).
Skin and body protection	: No precautions other than clean body-covering clothing should be needed.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Liquid.
Colour	: Brown
Odour	: Mild
Odour Threshold	: No data available
pH	: 7.3 (19.8 °C) Method: pH Electrode
Melting point/ range	: Not applicable
Freezing point	: < -10 °C
Boiling point/boiling range	: No data available
Flash point	: > 100 °C Method: Pensky-Martens Closed Cup ASTM D 93
Evaporation rate	: No data available
Flammability (solid, gas)	: Not applicable
Upper explosion limit / Upper flammability limit	: No data available
Lower explosion limit / Lower flammability limit	: No data available
Vapour pressure	: No data available
Relative vapour density	: No data available
Relative density	: No data available
Density	: 1.1401 g/cm ³ (20 °C) Method: Digital density meter
Solubility(ies) Water solubility	: Soluble

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Auto-ignition temperature	:	none below 400 degC
Viscosity		
Viscosity, dynamic	:	12.2 cP (20 °C) Method: EPA OPPTS 830.7100 (Viscosity)
Explosive properties	:	No
Oxidizing properties	:	No
Surface tension	:	54.4 mN/m, 20 °C
Particle characteristics		
Particle size	:	Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	No decomposition if stored and applied as directed. Stable under normal conditions.
Possibility of hazardous reactions	:	Stable under recommended storage conditions. No hazards to be specially mentioned. None known.
Conditions to avoid	:	None known.
Incompatible materials	:	Strong acids Strong bases
Hazardous decomposition products	:	Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon oxides Nitrogen oxides (NOx) Hydrogen chloride gas

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	:	LD50 (Rat, male and female): > 5,000 mg/kg Method: OECD Test Guideline 401 Remarks: Information source: Internal study report
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 5.79 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Assessment: The substance or mixture has no acute inhalation toxicity Remarks: Information source: Internal study report
Acute dermal toxicity	:	LD50 (Rat, male and female): > 5,000 mg/kg Method: OECD Test Guideline 402 Remarks: Information source: Internal study report

Components:

Aminopyralid Triisopropanolamine Salt:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg Remarks: For similar material(s):
Acute inhalation toxicity	:	LC50 (Rat): > 5.79 mg/l Exposure time: 4 h

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Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: For similar material(s):

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg
Remarks: For similar material(s):

1,1',1'-nitritotripropan-2-ol:

Acute oral toxicity : LD50 (Rat): 4,000 mg/kg

Acute inhalation toxicity : (Rat): Exposure time: 8 h
Symptoms: No deaths occurred following exposure to a saturated atmosphere.
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

Skin corrosion/irritation

Product:

Species : Rabbit
Result : No skin irritation
Remarks : Information source: Internal study report

Components:

Aminopyralid Triisopropanolamine Salt:

Result : No skin irritation

1,1',1'-nitritotripropan-2-ol:

Result : No skin irritation

Serious eye damage/eye irritation

Product:

Species : Rabbit
Result : No eye irritation
Method : OECD Test Guideline 405
Remarks : Information source: Internal study report

Components:

Aminopyralid Triisopropanolamine Salt:

Result : No eye irritation

1,1',1'-nitritotripropan-2-ol:

Result : Eye irritation

Respiratory or skin sensitisation

Product:

Test Type : Maximisation Test
Species : Guinea pig
Assessment : Does not cause skin sensitisation.
Method : OECD Test Guideline 406
Remarks : Information source: Internal study report

Components:

Aminopyralid Triisopropanolamine Salt:

Species : Guinea pig
Result : Does not cause skin sensitisation.

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Remarks : For similar active ingredient(s).

1,1',1'-nitritotripropan-2-ol:

Species : Guinea pig
Result : Does not cause skin sensitisation.

Germ cell mutagenicity

Components:

Aminopyralid Triisopropanolamine Salt:

Germ cell mutagenicity - Assessment : For similar active ingredient(s), Aminopyralid, In vitro genetic toxicity studies were predominantly negative, Animal genetic toxicity studies were negative.

1,1',1'-nitritotripropan-2-ol:

Germ cell mutagenicity - Assessment : In vitro genetic toxicity studies were negative, Animal genetic toxicity studies were negative.

Carcinogenicity

Components:

Aminopyralid Triisopropanolamine Salt:

Carcinogenicity - Assessment : For similar active ingredient(s), Aminopyralid, Did not cause cancer in laboratory animals.

1,1',1'-nitritotripropan-2-ol:

Carcinogenicity - Assessment : Did not cause cancer in laboratory animals.

Reproductive toxicity

Components:

Aminopyralid Triisopropanolamine Salt:

Reproductive toxicity - Assessment : For similar active ingredient(s), Aminopyralid, In animal studies, did not interfere with reproduction.
For similar active ingredient(s), Aminopyralid, Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

1,1',1'-nitritotripropan-2-ol:

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction.
Did not cause birth defects or any other fetal effects in laboratory animals.

STOT - single exposure

Product:

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Components:

Aminopyralid Triisopropanolamine Salt:

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

1,1',1'-nitritotripropan-2-ol:

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

STOT - repeated exposure

Product:

Assessment : Evaluation of available data suggests that this material is not an STOT-RE toxicant.

Repeated dose toxicity

Components:

Aminopyralid Triisopropanolamine Salt:

Remarks : For similar active ingredient(s).
Aminopyralid.

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1,1',1'-nitritotripropan-2-ol:
Remarks : In animals, effects have been reported on the following organs:
Gastrointestinal tract.

Aspiration toxicity
Product:
Based on physical properties, not likely to be an aspiration hazard.

Components:
Aminopyralid Triisopropanolamine Salt:
Based on physical properties, not likely to be an aspiration hazard.

1,1',1'-nitritotripropan-2-ol:
Based on physical properties, not likely to be an aspiration hazard.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 360 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203 or Equivalent

LC50 (Cyprinodon variegatus (sheepshead minnow)): > 100 mg/l
Exposure time: 96 h
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 460 mg/l
Exposure time: 48 h
Test Type: static test

LC50 (saltwater mysid Mysidopsis bahia): > 104 mg/l
Exposure time: 96 h
Test Type: static test

Toxicity to algae/aquatic plants : Remarks: For similar material(s):
Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

ErC50 (Myriophyllum spicatum): 0.363 mg/l
Exposure time: 14 d
Remarks: For similar material(s):

NOEC (Myriophyllum spicatum): 0.0639 mg/l
Exposure time: 14 d
Remarks: For similar material(s):

ErC50 (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l
Exposure time: 72 h
Remarks: For similar material(s):

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|-------------------------------------|---|---|
| Toxicity to soil dwelling organisms | : | LC50 (<i>Eisenia fetida</i> (earthworms)): > 10,000 mg/kg
Exposure time: 14 d
End point: survival |
| Toxicity to terrestrial organisms | : | Remarks: Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).
Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).

dietary LC50 (<i>Colinus virginianus</i> (Bobwhite quail)): > 21422 mg/kg diet.

oral LD50 (<i>Colinus virginianus</i> (Bobwhite quail)): > 10,000 ppm

oral LD50 (<i>Apis mellifera</i> (bees)): > 460 micrograms/bee

contact LD50 (<i>Apis mellifera</i> (bees)): > 460 micrograms/bee |
| Ecotoxicology Assessment | | |
| Acute aquatic toxicity | : | Very toxic to aquatic life. |
| Chronic aquatic toxicity | : | Very toxic to aquatic life with long lasting effects. |

Components:

Aminopyralid Triisopropanolamine Salt:

- | | | |
|---|---|---|
| Toxicity to fish | : | LC50 (<i>Oncorhynchus mykiss</i> (rainbow trout)): 360 mg/l
Exposure time: 96 h
Remarks: For similar material(s): |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (<i>Daphnia magna</i> (Water flea)): > 460 mg/l
Exposure time: 48 h
Remarks: For similar material(s): |
| Toxicity to algae/aquatic plants | : | ErC50 (<i>Myriophyllum spicatum</i>): 0.363 mg/l
Exposure time: 14 d
Remarks: For similar material(s):

NOEC (<i>Myriophyllum spicatum</i>): 0.0639 mg/l
Exposure time: 14 d
Remarks: For similar material(s):

ErC50 (<i>Pseudokirchneriella subcapitata</i> (green algae)): > 1,000 mg/l
Exposure time: 72 h
Remarks: For similar material(s): |
| Toxicity to terrestrial organisms | : | Remarks: Based on information for a similar material:., Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg)., Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm). |

Ecotoxicology Assessment

- | | | |
|--------------------------|---|---|
| Acute aquatic toxicity | : | Very toxic to aquatic life. |
| Chronic aquatic toxicity | : | Very toxic to aquatic life with long lasting effects. |

1,1',1'-nitritotripropan-2-ol:

- | | | |
|------------------|---|---|
| Toxicity to fish | : | LC50 (<i>Leuciscus idus</i> (Golden orfe)): 3,158.4 mg/l |
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Exposure time: 96 h
Test Type: static test
Method: DIN 38412

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 500 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202 or Equivalent

Toxicity to algae/aquatic plants : EC50 (alga Scenedesmus sp.): 710 mg/l
End point: Growth rate inhibition
Exposure time: 72 h
Test Type: static test
Method: EU Method C.3 (Algal Inhibition test)

Toxicity to microorganisms : EC10 (activated sludge): > 1,195 mg/l
Exposure time: 30 min

Persistence and degradability

Components:

Aminopyralid Triisopropanolamine Salt:

Biodegradability : Remarks: For similar material(s): Aminopyralid.
Material is not readily biodegradable according to OECD/EEC guidelines.

1,1',1'-nitrilotripropan-2-ol:

Biodegradability : aerobic
Result: Not biodegradable
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent
Remarks: 10-day Window: Fail

ThOD : 2.35 kg/kg

Photodegradation : Test Type: Half-life (indirect photolysis)
Sensitiser: OH radicals
Rate constant: 1.2E-10 cm³/s
Method: Estimated.

Bioaccumulative potential

Components:

Aminopyralid Triisopropanolamine Salt:

Partition coefficient: n-octanol/water :
Remarks: For similar active ingredient(s). Aminopyralid.
Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

1,1',1'-nitrilotripropan-2-ol:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): < 0.57
Exposure time: 42 d
Method: Measured

Partition coefficient: n-octanol/water : log Pow: -0.015 (23 °C)
Method: Measured
Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

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Balance:

Partition coefficient: n-octanol/water : Remarks: No relevant data found.

Mobility in soil

Components:

Aminopyralid Triisopropanolamine Salt:

Distribution among environmental compartments : Remarks: For similar active ingredient(s). Aminopyralid. Potential for mobility in soil is very high (Koc between 0 and 50).

1,1',1'-nitritotripropan-2-ol:

Distribution among environmental compartments : Koc: 10
Method: Estimated.
Remarks: Potential for mobility in soil is very high (Koc between 0 and 50).

Balance:

Distribution among environmental compartments : Remarks: No relevant data found.

Other adverse effects

Components:

Aminopyralid Triisopropanolamine Salt:

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

1,1',1'-nitritotripropan-2-ol:

Results of PBT and vPvB assessment : Substance is not persistent, bioaccumulative, and toxic (PBT). Substance is not very persistent and very bioaccumulative (vPvB).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Balance:

Results of PBT and vPvB assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.
If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

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SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Aminopyralid Triisopropanolamine Salt)
Class	:	9
Packing group	:	III
Labels	:	9
Environmentally hazardous	:	no

IATA-DGR

UN/ID No.	:	UN 3082
Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. (Aminopyralid Triisopropanolamine Salt)
Class	:	9
Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo aircraft)	:	964
Packing instruction (passenger aircraft)	:	964

IMDG-Code

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Aminopyralid Triisopropanolamine Salt)
Class	:	9
Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Marine pollutant	:	yes(Aminopyralid Triisopropanolamine Salt)
Remarks	:	Stowage category A

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

TDG

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Aminopyralid Triisopropanolamine Salt)
Class	:	9
Packing group	:	III
Labels	:	9
ERG Code	:	171
Marine pollutant	:	yes(Aminopyralid Triisopropanolamine Salt)

Further information

Marine Pollutants assigned UN number 3077 and 3082 in single or combination packaging containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 KG or less for solids may be transported as non-dangerous goods as provided in section 2.10.2.7 of IMDG code, IATA Special provision A197, and ADR/RID special provision 375.

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For Canadian Ground transportation TDG Exemption: 1.45.1 Marine Pollutants (Part 3, Documentation, and Part 4, Dangerous Goods Safety Marks, do not apply if they are in transport solely on land by road vehicle or railway vehicle).

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

The components of this product are reported in the following inventories:

DSL : This product contains components that are not listed on the Canadian DSL nor NDSL.

Pest Control Products Act (PCPA) Registration Number : 28517

Read the PCPA label, authorized under the Pest Control Products Act, prior to using or handling this pest control product.

This chemical is a pest control product registered by Health Canada Pest Management Regulatory Agency and is subject to certain labelling requirements under the Pest Control Products Act (PCPA). There are Canada-specific environmental requirements for handling, use, and disposal of this pest control product that are indicated on the label. These requirements differ from the classification criteria and hazard information required for GHS-consistent safety data sheets. Following is the hazard information required on the pest control products label:

PCPA Label Hazard Communications:

Read the label and booklet before using. Keep out of reach of children.

This product is toxic to:

Non-target terrestrial plants

Aquatic organisms

SECTION 16. OTHER INFORMATION

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

Full text of other abbreviations

Corteva OEL : Corteva Occupational Exposure Limit

Corteva OEL / TWA : 8-hr TWA

ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; ASTM - American Society for the Testing of Materials; ECx - Concentration associated with x% response; EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - not otherwise specified; NOEC - Non-Observed Effective Concentration; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; (Q)SAR - (Quantitative) Structure Activity Relationship; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SDS - Safety Data Sheet; UN - United Nations.

DSL - Domestic substances List. WHMIS - Workplace Hazardous Materials Information System.

SAFETY DATA SHEET

according to the Hazardous Products Regulations



MILESTONE™ Herbicide

Version	Revision Date:	SDS Number:	Date of last issue: 09/29/2022
2.0	03/13/2025	800080004418	Date of first issue: 09/29/2022

Revision Date	:	03/13/2025
Date format	:	mm/dd/yyyy

Product code: GF-871

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

CA / 6N



Safety Data Sheet

Report
Date 05-Apr-17

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1. Identification

Product Name : HARDBALL
Synonyms : None
Product Use : 2,4-D Herbicide
Manufacturer/Supplier : Helena Chemical Company
Address : 225 Schilling Blvd. Collierville, TN 38017
General Information : 901-761-0050
Transportation Emergency Number : CHEMTREC:800-424-9300

2. Hazard Identification



Signal Word : Danger
Skin Irritation : Slightly irritating
Eye Irritation : Severely irritating and irreversible
Acute Toxicity Oral : LD50 1,693 mg/kg (female rats); >2,000 mg/kg (male rats)
Acute Toxicity Dermal : LD50 >5,000 mg/kg (male/female rats)
Hazard Categories : Oral/Dermal/Inhalation Toxicity-4/5/4; Eye/Skin Irritation-1/3; Skin Sensitization-1A
Hazard Statement : Harmful if swallowed
May be harmful in contact with skin
Causes serious eye damage
Causes mild skin irritation
Harmful if inhaled
May cause an allergic skin reaction

3. Composition / Information on Ingredients

Component	CAS Number	Weight %
2,4-Dichlorophenoxyacetic Acid	94-75-7	19.6
Other nonhazardous ingredients	Proprietary	80.4

4. First Aid Measures

Eye : Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye. Call a poison control center or doctor immediately for further treatment advice.

Skin : Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

Inhalation : Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

Ingestion : Call a poison control center or doctor immediately for treatment advice. Rinse mouth with water. Do not induce vomiting. Do not give anything by mouth if unconscious or convulsing.



Safety Data Sheet

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Indication of Immediate Medical Attention and Special Treatment Needed : In the event of an adverse response, treatment should be directed toward control of the symptoms.

5. Fire Fighting Measures

Extinguishing Media : Foam, water spray, dry chemical or carbon dioxide extinguishing media.
Specific Hazards Arising from the Chemical : Under fire conditions, toxic and corrosive fumes are emitted.
Special Fire Fight Proc : Wear self-contained breathing apparatus and full protective clothing. Contain and dispose of fire control water.

6. Accidental Release Measures

Personal Precautions : Keep unprotected and unnecessary personnel out of spill area.
Protective Equipment : Splashproof goggles or face shield, impervious gloves, impervious apron and footwear. Use NIOSH-approved respirator for organic vapors. Eyewash and emergency shower should be available in work area.
Emergency Procedures : Do not contaminate water supplies, lakes, streams, ponds, drains or soil with spilled product.
Methods and Materials for Containment and Cleanup : Contain spill using absorbent or impervious materials such as earth, sand or clay. Collect and place in plastic recovery drums for proper disposal.

7. Handling and Storage

Precautions for Safe Handling : Do not contaminate water, food or feed by storage, handling or disposal.
Conditions for Safe Storage : Do not store at temperatures below 0 Degrees F. If frozen, warm to 40 Degrees F. and redissolve by rolling or shaking container before use. Do not store under conditions which might adversely affect the container or its ability to function properly. This product can be stored in an unheated building. Store in a safe manner. Store in original container only. Keep container tightly closed when not in use. Reduce stacking height where local conditions can affect package strength.

8. Exposure Controls / Personal Protection

TLV/PEL : 2,4-D: TLV=10 mg/m³; PEL=10 mg/m³
Appropriate Engineering Controls : Local exhaust (mechanical) normally sufficient.
Personal Protective Equipment : Splashproof goggles or face shield, impervious gloves, impervious apron and footwear. Use NIOSH-approved respirator for organic vapors. Eyewash and emergency shower should be available in work area.

9. Physical and Chemical Properties

Odor/Appearance : Clear, pale yellow liquid with surfactant odor.
Flash Point, °F : >200 Degrees F.
Boiling Point, °F : >212 Degrees F.
Melting Point(Freezing point), °C : <32 Degrees F.
Vapor Pressure, mm Hg @ 20 °C : No information found
Vapor Density : No information found
Solubility in Water : Emulsifiable
Molecular Formula : Not applicable, formulated mixture.



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Density, g/mL @ 25 °C : 1.076-1.115
Evaporation Rate(Butyl Acetate = 1) : No information found
Octanol/Water Partition Coefficient : No information found
pH : 2.5 to 3.0 (2.5%)
Flammable Limits (approximate volume % in air) : No information found
Auto-ignition Temperature : Not determined
Decomposition temperature : No information found

10. Stability and Reactivity

Reactivity : No information found
Chemical Stability : Stable
Hazardous Decomposition Products : Hydrogen chloride and oxides of carbon under fire conditions.
Hazardous Polymerization : Will not occur
Conditions to Avoid : Extreme heat, open flames, sparks or static electricity.
Incompatible Materials : Strong oxidizing agents.

11. Toxicological Information

Acute Toxicity (Oral LD50) : 1,693 mg/kg (female rats) and >2,000 mg/kg (male rats). Harmful if swallowed.
Acute Toxicity (Dermal LD50) : >5,000 mg/kg (male and female rats). May be harmful in contact with skin.
Acute Toxicity Inhalation LC50 : 1.29 mg/L (male and female rats), 4 hour exposure to aerosol. Harmful if inhaled.
Likely Routes of Exposure : Eyes, skin, inhalation, ingestion.
Skin Irritation : Causes mild skin irritation.
Eye Irritation : Causes serious eye damage.
Skin Sensitization : Product is a contact sensitizer. May cause an allergic skin reaction.
Carcinogenic : Not currently listed by OSHA. IARC: 2,4-D is classified Group 2B, possibly carcinogenic to humans.
Chronic Effects : In animals, effects have been reported on the following organs: liver, kidney, eye, thyroid.
Other Hazards : Various animal cancer tests have shown no reliably positive association between 2,4-D exposure and cancer.

12. Ecological Information

Ecotoxicity : Moderately toxic to aquatic organisms on an acute basis. Moderately toxic to birds on an acute basis.
Persistence and Degradability : Readily biodegradable.
Bioaccumulative Potential : Bioconcentration potential for 2,4-D is low.
Mobility in Soil : Potential for mobility in soil is very high.
Other Adverse Effects : No information available.

13. Disposal Considerations

Waste Disposal Method : This material must be disposed of according to Federal, State or Local procedures under the Resource Conservation and Recovery Act. (RCRA U240 and D016)



Safety Data Sheet

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Date **05-Apr-17**

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14. Transport Information

UN Proper Shipping Name : Not regulated by DOT in single package sizes <57 gallons.
Transport Hazard Class : None
UN Identification Number : None
Packaging Group : None
Environmental Hazards : Not listed as Marine Pollutant per 49 CFR 172.101, Appendix B.
Transport in Bulk : If shipped in single package $\geq$ 57 gallons, ship as: RQ, UN3082, Environmentally Hazardous Substance, Liquid, n.o.s., (2,4-D Acid), 9, PG III "ERG # 171"
Special Precautions for Transportation : Reportable quantity (RQ) for 2,4-D acid = 100 lbs/57 gallons.
Freight Classification : Pesticides, NOI, Herbicides, Other than Poison (NMFC Item 155050, Sub 11, Class 70)

15. Regulatory Information

National Fire Protection Association Rating

Health: 3 Fire: 1 Reactivity: 0
Rating Level: (4-Extreme, 3-High, 2-Moderate, 1-Slight, 0-Minimum)

S.A.R.A Title III Hazard Classification (Yes/No)

Immediate(Acute) Health: Y
Delayed (Chronic) Health: Y
Sudden Release of Pressure: N
Fire: N
Reactive: N

FIFRA Information : This Chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labelling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

EPA Registration Number : 5905-549

FIFRA Signal Word : Danger

FIFRA Label Statement : Keep out of reach of children.

FIFRA Label Statement : Corrosive. Causes irreversible eye damage.

FIFRA Label Statement : Harmful if swallowed.

FIFRA Label Statement : Harmful if inhaled.

FIFRA Label Statement : Do not get in eyes or on clothing.

FIFRA Label Statement : Avoid breathing spray mist or vapor.

FIFRA Label Statement : Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

16. Other Information

Data of Preparation/Revision : 05-April-2017



ACTIVE INGREDIENT:	
2,4-Dichlorophenoxyacetic Acid	19.6%
OTHER INGREDIENTS	80.4%
TOTAL	100.0%
Equivalent to 19.6% 2,4-D Acid or 1.74 lbs./gal. Isomer specific by AOAC Method 6.D01-5 (12th Ed.) Patent No. 5,877,112 – Other Patents Pending	

KEEP OUT OF REACH OF CHILDREN DANGER – PELIGRO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor immediately for advice. **IF SWALLOWED:** Call a poison control center or doctor immediately for advice. Have person sip a glass of water. Do not induce vomiting unless instructed to do so by poison control center or doctor. Do not give anything by mouth to an unconscious or convulsing person. **IF INHALED:** Move victim to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration preferably mouth-to-mouth, if possible. Call a poison control center or doctor immediately for further treatment advice. **IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

HOT LINE NUMBER: Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency assistance call toll-free, 1-800-424-9300 (ChemTrec).

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Causes irreversible eye damage.

PRECAUTIONARY STATEMENTS

Hazards To Humans and Domestic Animals DANGER – PELIGRO

Corrosive. Causes irreversible eye damage. Harmful if swallowed. Harmful if inhaled. Do not get in eyes or on clothing. Avoid breathing spray mist or vapor. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Manufactured For
HELENA CHEMICAL COMPANY
225 SCHILLING BOULEVARD, SUITE 300
COLLIERVILLE, TENNESSEE 38017

NET CONTENTS:

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Do not store below temperature of 0°F. If frozen, warm to 40°F and re-dissolve before using by rolling or shaking container. This product can be stored in an unheated building. Store in a safe manner. Store in original container only. Keep container tightly closed when not in use. Reduce stacking height where local conditions can affect package strength. Do not store under conditions which might adversely affect the container or its ability to function properly.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: NONREFILLABLE METAL CONTAINER (EQUAL TO OR LESS THAN 5 GALLONS): Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. **NON-REFILLABLE METAL CONTAINER (GREATER THAN 5 GALLONS):** Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. **NONREFILLABLE PLASTIC CONTAINER (EQUAL TO OR LESS THAN 5 GALLONS):** Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or incineration if allowed by State and local authorities, by burning. If burned, stay out of smoke. **NONREFILLABLE PLASTIC CONTAINER (GREATER THAN 5 GALLONS):** Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. **REFILLABLE CONTAINER:** Refill this container with pesticide only. Do not reuse this container for any other purpose. Prior to refilling, inspect thoroughly for damage such as cracks, punctures, abrasions, and damaged or worn-out threads on closure devices. Do not refill or transport damaged or leaking containers. Check for leaks after refilling and before transportation. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. If the container is not being refilled, return to the point of purchase or designated location.

SEE INSIDE LABEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS AND COMPLETE DIRECTIONS FOR USE.

EPA Reg. No. 5905-549 AD 081512
EPA Est. No.: First letters of product batch code indicate producing establishment. 5905-AR-1=WA • 5905-GA-1=C6 • 5905-IA-1=DI • 5905-CA-1=KC

PEEL BACK BOOK HERE AND RESEAL AFTER OPENING

OPM #110224

**ACTIVE INGREDIENT:**

2,4-Dichlorophenoxyacetic Acid 19.6%

OTHER INGREDIENTS 80.4%**TOTAL** 100.0%

Equivalent to 19.6% 2,4-D Acid or 1.74 lbs./gal.

Isomer specific by AOAC Method 6.D01-5 (12th Ed.)

Patent No. 5,877,112 – Other Patents Pending

**KEEP OUT OF REACH OF CHILDREN
DANGER – PELIGRO**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor immediately for advice.

IF SWALLOWED: Call a poison control center or doctor immediately for advice. Have person sip a glass of water. Do not induce vomiting unless instructed to do so by poison control center or doctor. Do not give anything by mouth to an unconscious or convulsing person.

IF INHALED: Move victim to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration preferably mouth-to-mouth, if possible. Call a poison control center or doctor immediately for further treatment advice.

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency assistance call toll-free, 1-800-424-9300 (ChemTrec).

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Causes irreversible eye damage.

SEE INSIDE BOOKLET FOR ADDITIONAL PRECAUTIONARY STATEMENTS AND COMPLETE DIRECTIONS FOR USE.

EPA Est. No.: First letters of product batch code indicate producing establishment.
5905-AR-1=WA • 5905-GA-1=CG • 5905-IA-1=DI • 5905-CA-1=KC

EPA Reg. No.: 5905-549
AD 081512

Manufactured For
HELENA CHEMICAL COMPANY
225 SCHILLING BOULEVARD, SUITE 300 • COLLIERVILLE, TENNESSEE 38017

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER – PELIGRO

Corrosive. Causes irreversible eye damage. Harmful if swallowed. Harmful if inhaled. Do not get in eyes or on clothing. Avoid breathing spray mist or vapor. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical resistant are made of barrier laminate, nitrile rubber, neoprene rubber or viton. If you want more options, follow the instructions for category *F* on an EPA chemical-resistance category selection chart.

All mixers, loaders, applicators, flaggers, and other handlers must wear:

- long-sleeved shirt and long pants,
- shoes and socks, plus
- face shield or goggles,
- chemical-resistant gloves when applying with any handheld equipment, mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate, and
- chemical-resistant apron when mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate.

See "Engineering Controls" for additional requirements.

User Safety Requirements

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.

Engineering Control Statements

Pilots must use an enclosed cockpit that meets the requirements listed in the WPS for agricultural pesticides [40 CFR 170.240(d)(6)].

USER SAFETY RECOMMENDATIONS

- Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. If pesticide gets on skin, wash immediately with soap and water.
- Users should 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.

ENVIRONMENTAL HAZARDS

For terrestrial uses: This product may be toxic to fish and aquatic invertebrates. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark except as noted on appropriate labels. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment wash waters or rinsate.

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.

Aquatic Weed Control: Fish breathe dissolved oxygen in the water and decaying weeds also use oxygen. When treating continuous, dense weed masses, it may be appropriate to treat only part of the infestation at a time. For example, apply the product in lanes separated by untreated strips that can be treated after vegetation in treated lanes has disintegrated. During the

growing season, weeds decompose in a 2- to 3-week period following treatment. Begin treatment along the shore and proceed outwards in bands to allow fish to move into untreated areas. Waters having limited and less dense weed infestations may not require partial treatments.

Groundwater Contamination: Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of groundwater supplies. Use of closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

This product may cause injury to desirable plants by contacting foliage, stems or roots. Use care in all applications to avoid surface water or soil transport to non-target plant areas. Avoid contamination of irrigation or domestic water supplies. Avoid applications in the vicinity of susceptible plants or when winds are blowing toward nearby susceptible plants or when temperature inversions are expected. Avoid direct application or spray drift to susceptible plants since very small quantities of this herbicide can cause severe injury in the growing or dormant period. Plants contacted may be killed or suffer significant injury resulting in grade or yield losses. Do not apply in greenhouses.

Use an agriculturally-accepted drift retardant designed to increase droplet size.

CHEMIGATION PROHIBITION

Do not apply this product through any type of irrigation system.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 48 hours.

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:

- Coveralls
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks
- Protective eyewear

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

USE REQUIREMENTS FOR PASTURES, PERENNIAL GRASSLANDS, RANGELAND, FALLOW LAND AND NON-CROP AREAS: Do not enter treated areas until spray has dried.

TURF USE REQUIREMENTS: Do not allow persons (other than applicator) or pets on treated area during application. Do not enter treated areas until spray has dried. **NOTE:** For application to turf being grown for sale or other commercial use as sod, or for commercial seed production, or for research purposes, follow "AGRICULTURAL USE REQUIREMENTS" on this label.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

SPRAY DRIFT MANAGEMENT

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of application (e.g., ground, aerial, airblast) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

Droplet Size

When applying sprays that contain 2,4-D as the sole active ingredient, or when applying sprays that contain 2,4-D mixed with active ingredients that require a Coarse or coarser spray, apply only as a Coarse or coarser spray (ASAE standard 572) or volume mean diameter of 385 microns or greater for spinning atomizer nozzles.

When applying sprays that contain 2,4-D mixed with other active ingredients that require a Medium or more fine spray, apply only as a Medium or coarser spray (ASAE standard 572) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles.

Wind Speed

Do not apply at wind speeds greater than 15 mph. Only apply this product if the wind direction favors on-target deposition and there are not sensitive areas (including, but not limited to, residential areas, bodies of water, known habitat for nontarget species, nontarget crops) within 250 feet downwind. If applying a Medium spray, leave one swath unsprayed at the downwind edge of the treated field.

Temperature Inversions

If applying at wind speeds less than 3 mph, the applicator must determine if: a) conditions of temperature inversion exist, or b) stable atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or stable atmospheric conditions.

Susceptible Plants

Do not apply under circumstances where spray drift may occur to food, forage, or other plantings that might be damaged or crops thereof rendered unfit for sale, use or consumption. Susceptible crops include, but are not limited to, cotton, okra, flowers, grapes (in growing stage), fruit trees (foliage), soybeans (vegetative stage), ornamentals, sunflowers, tomatoes, beans, and other vegetables, or tobacco. Small amounts of spray drift that might not be visible may injure susceptible broadleaf plants.

Other State and Local Requirements

Applicators must follow all state and local pesticide drift requirements regarding application of 2,4-D herbicides. Where states have more stringent regulations, they must be observed.

Equipment

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

Additional requirements for aerial applications:

The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.

Release spray at the lowest height consistent with efficacy and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety. This requirement does not apply to forestry or rights-of-way applications.

When applications are made with a crosswind, the swath will be displaced downwind. The applicator must compensate for this by adjusting the path of the aircraft upwind.

Additional requirements for ground boom application:

Do not apply with a nozzle height greater than 4 feet above the crop canopy.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Do not store below temperature of 0°F. If frozen, warm to 40°F and re-dissolve before using by rolling or shaking container. This product can be stored in an unheated building. Store in a safe manner. Store in original container only. Keep container tightly closed when not in use. Reduce stacking height where local conditions can affect package strength. Do not store under conditions which might adversely affect the container or its ability to function properly.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL:

NONREFILLABLE METAL CONTAINER (EQUAL TO OR LESS THAN 5 GALLONS): Do not reuse or refill this container.

Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities.

NONREFILLABLE METAL CONTAINER (GREATER THAN 5 GALLONS): Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities.

NONREFILLABLE PLASTIC CONTAINER (EQUAL TO OR LESS THAN 5 GALLONS): Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or incineration if allowed by State and local authorities, by burning. If burned, stay out of smoke.

NONREFILLABLE PLASTIC CONTAINER (GREATER THAN 5 GALLONS): Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

REFILLABLE CONTAINER: Refill this container with pesticide only. Do not reuse this container for any other purpose. Prior to refilling, inspect thoroughly for damage such as cracks, punctures, abrasions, and damaged or worn-out threads on closure devices. Do not refill or transport damaged or leaking containers. Check for leaks after refilling and before transportation. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. If the container is not being refilled, return to the point of purchase or designated location.

PRODUCT INFORMATION

Local conditions, crop varieties, and application method may affect performance of this product. User should consult local extension service, agricultural experiment station, or university weed specialists, and state regulatory agencies for recommendations in your area.

Best results are obtained when product is applied to young succulent weeds that are actively growing. Application rates lower than specified will not be satisfactory on susceptible annual weeds. For perennial weeds and conditions such as the very dry areas of the western states, where control is difficult, the higher listed rates should be used. When product is used for weed control in crops, the growth stage of the crop must be considered. Some plants and weeds, especially woody varieties, are hard to control and may require repeat applications. Application rates should be 1 to 5 gallons of total spray by air or 5 to 25 gallons by ground equipment unless otherwise directed. In either case, use the same amount of **HardBall®** per acre. **HardBall®** should not be allowed to come into contact with desirable, susceptible plants such as beans, cotton, fruit trees, grapes, legumes, ornamentals, peas, tomatoes and other vegetables. **HardBall®** should not be used in greenhouses. If stored below freezing, it may be necessary to warm product to 40°F and agitate before using. This does not affect the efficacy of the product. Spray equipment used to apply **HardBall®** or other products containing 2,4-D should not be used for any other purpose until thoroughly cleaned with a suitable chemical cleaner.

WEEDS CONTROLLED

HardBall® will control or partially control the following as well as many other noxious plants susceptible to 2,4-D:

Alders	Cockle	Indian Mallow
Alligatorweed	Cocklebur, common	Indigo
American lotus	Coffeebean	Jewelweed
Arrowhead	Coffeeweed	Jerusalem artichoke
Artichoke	Cornflower	Jimsonweed
Austrian fieldcress	Creeping jenny	Klamathweed
Biden	Croton (Texas, woolly)	Ladysthumb
Bittercress, smallflower	Curly indigo	Lambsquarters, common
Bittersweet	Dandelion	Loco, bigbend
Bitterweed	Devil's Claw	Mallow (Venice, dwarf, little)
Bitter wintercress	<i>Proboscidea louisianica</i>	Marestail
Black-eyed Susan	Dogfennel (mayweed)	Marijuana
Blessed Thistle	Duckweed	Marshelder
Blue lettuce	Elderberry	Mexican weed
Blue thistle	Evening primrose, common	Milk vetch
Blueweed, Texas	Evening primrose, cutleaf	Morningglory
Box elder	Fanweed	(annual, common, ivy, woolly)
Broomweed, common	Figwort	Mousetail
Buckhorn	Fleabane	Mustards (except blue), prior to bolting
Bull nettle	Flixweed	Nutgrass
Bull thistle	Florida pusley	Parrotfeather
Bulrush	Four o'clock	Parsnip
Bur ragweed	Frenchweed	Pennycress (fanweed)
Burdock, common	Galinsoga (elderberry, hairy)	Pennywort
Burhead	Goatsbeard	Peppergrass
Buttercup, smallflowered	Goosefoot	Pepperweeds (except perennial)
Carpetweed	Gumweed	Plantains
Carolina geranium	Healall	Poison ivy
Catnip	Hemp	Pokeweed
Chickweed	Henbit	Poorjoe
Chicory	Honeysuckle	Poverty weed
Cinquefoil, common & rough	Horsetail	

(continued)

WEEDS CONTROLLED (cont.)

HardBall® will control or partially control the following as well as many other noxious plants susceptible to 2,4-D:

Prickly lettuce	Stinging nettles	Water primrose
Primrose	Stinkweed	Water shield
Puncture vine	Sumacs	Wild carrot
Purslane, common	Sunflower	Wild hemp
Quickweed	Sweetclover (annual)	Wild lettuce
Radish	Tanweed	Wild mustard
Ragweeds (common, giant)	Tarweed	Wild parsnip
Redstem	Thistles	Wild radish
Rough fleabane	Toadflax	Wild rape
Rush	Tumbleweed	Wild strawberry
Shepherdspurse	Velvetleaf	Wild sweet potato
Sicklepod	Venicemallow	Willow
Sneezeweed, bitter	Vetches, except hairy	Witchweed
Sowthistle (annual, spiny)	Virginia copperleaf	Wormwood
Spanishneedles	Virginia creeper	Yellow goatsbeard
Spatterdock	Water hyacinth	Yellow rocket
Speedwell	Water lily	Yellow starthistle
St. John's wort	Water plantain	

Weeds Partially Controlled (Higher rates and/or repeated applications may be needed):

Alfalfa	Hawkweed	Sage, coastal
Beggarticks	Henbit	Sagebrush (big, sand)
Bindweeds (hedge, European)	Hoary cress	Salsify (western, common)
Buckbrush	Ironweed	Salt Cedar (<i>T. ramossissim</i>)
Bull thistle	Knotweed	Sand shinnery oak
Canada thistle	Mallow	Smartweed, annual
Chamise	Many-flowered aster	Smartweed, Pennsylvania
Clover, red	Manzanita	Tansyragwort
Corn gromwell	Musk thistle	Vervains
Coyotebrush	Nettles	Vetch, hairy
Dandelion	Orange Hawkweed	Western ironweed
Docks	Peppergrass	Wild carrot
Dogbanes	Prickly lettuce	Wild garlic
Goldenrod	Rabbitbrush	Wild onion
Ground ivy	Russian thistle	

Weeds Partially Controlled And For Which Locally Resistant Biotypes May Occur:

Pigweed

Weeds Suppressed When Another Labeled Herbicide Is Also Applied:

Bindweed (field) Russian knapweed

MIXING INSTRUCTIONS

HardBall® is a macro-emulsifiable concentrate formulation intended for dilution in water for many applications. For certain specific applications, liquid fertilizer or oil may replace part or all of the water as diluent.

If dry flowable (DF), wettable powder (WP) or flowable (F) tank mix products are to be used, these should generally be added to the spray tank first. Refer to the mixing directions on the labels of the tank mix products.

For best results, thoroughly clean sprayer immediately after use by flushing system with water and heavy duty detergent such as **Wipe Out®**.

Water Spray: To prepare a water spray mixture, fill clean spray tank about 1/2 to 2/3 full with clean water. With agitation turned on, add the required amount of **HardBall®**. Continue agitation while adding balance of water and during spray operations.

NOTE: In water this product forms a macro-emulsion and can separate upon prolonged standing. If spray mixture is allowed to stand, agitate again to assure uniformity.

Liquid Fertilizer Spray: Due to increased risk of crop foliage burn with fertilizer, use only as recommended on this label or supplemental labeling distributed for **HardBall®**. Use fertilizer rate recommended locally. Fill clean spray tank about 1/2 to 2/3 full with liquid nitrogen fertilizer (UAN or urea) solution. Add required amount of product with vigorous agitation running. Continue agitation while adding balance of liquid fertilizer and during spray operations. Application should be made immediately. Overnight storage of mixture is not recommended. Application during very cold (near freezing) temperatures is not advisable because of the likelihood of crop injury. This product is formulated to be compatible with most liquid nitrogen solutions, however, due to variability in fertilizers, users may wish to perform a jar compatibility test before large-scale mixing.

Oil Spray: Use only as recommended on this label or supplemental labeling distributed for **HardBall®**. Fill clean spray tank about 1/2 to 2/3 full with an oil approved for agricultural use (diesel oil, fuel oil, stove oil, etc.). Add required amount of product with agitation turned on. Continue agitation while adding balance of oil. The resulting mixture is a solution and will generally remain uniform without agitation once mixed. However, agitation is suggested, if available. Do not allow any water to get into the spray mixture to avoid formation of an invert emulsion (mayonnaise consistency).

Water Spray With Oil: Use only as recommended on this label or supplemental labeling distributed for **HardBall®**. Where a combination of water and oil diluent is recommended, the use of emulsifiable crop oil or crop oil concentrate is suggested since mild agitation will be sufficient. Mix in the sequence of water, product, and oil. If diesel or other non-emulsified oils listed above under "Oil Spray" are desired for use with water, add no more than 1 quart of such oil per 1 gallon of water and agitate vigorously until tank is emptied. If possible, premix non-emulsified oil with this product and add this premix to a mostly filled spray tank with agitation on. Follow these procedures carefully to avoid formation of an invert emulsion (mayonnaise consistency).

APPLICATION PROCEDURES

Use calibrated spray equipment for all types of applications to assure applying the recommended amount of spray mixture per acre. Use sufficient spray volume within the ranges specified to obtain good coverage of weeds. **HardBall®** is absorbed sufficiently within 1 hour after application to provide adequate weed control.

Ground Broadcast Spray: Unless otherwise specified in the appropriate crop or non-crop directions, apply in 5 or more gallons of spray solution per acre. Use enough spray volume to provide uniform coverage of weeds, taking into account the amount of vegetation present and the type of application equipment to be used. As crop canopy and weed density increase, a higher spray volume may be needed for equivalent coverage and weed control. Typical crop applications utilize 10 to 50 gallons of spray solution per acre, while certain high volume non-crop applications may utilize more than 100 gallons per acre. Use coarse sprays to minimize potential spray drift. Do not apply with hollow cone nozzles or other nozzles that produce fine spray droplets. Boom spraying with flat fan or low volume nozzles is generally most suitable for ground broadcast applications.

Ground Band Spray: Determine band equivalents to broadcast rates and volumes by the following formulas:

Band width in inches	x	Broadcast	=	Band rate
Row width in inches		rate per acre		per acre
Band width in inches	x	Broadcast	=	Band volume
Row width in inches		volume per acre		per acre

Aerial Broadcast Spray: Unless otherwise specified in the appropriate crop or non-crop directions, apply in 1 to 5 gallons of spray solution per acre. For best coverage and weed control, as well as reduced potential for spray drift, a minimum of 3 gallons per acre is suggested. Avoid using nozzles or nozzle configurations that generate fine droplets. One configuration usually found to be suitable includes straight stream nozzles (such as disk with no swirl plate) directed straight back along the wind stream. Mechanical flagging or GPS (Global Positioning Systems) is suggested to obtain more uniform application.

With fixed-wing or helicopter application, an exactly even swath deposition may not be achieved, and consequently, crop injury or pesticide nonperformance may result wholly or in part. Do not apply by air during periods of thermal inversion. Avoid application if potential for drift is excessive and/or susceptible crops are growing in the vicinity.

TANK MIXES

Unless otherwise prohibited on this label or the label of an intended tank mix product, this product may be applied in combination with any herbicide registered for the same crop, timing, and method of application. Observe the most restrictive label statements of various tank mix products used. **LIABILITY FOR CROP INJURY RESULTING FROM A TANK MIXTURE NOT SPECIFIED ON THIS LABEL, OR SUPPLEMENTAL LABELING DISTRIBUTED FOR HARDBALL®, IS SPECIFICALLY DISCLAIMED BY CHEMICAL COMPANY.**

Glyphosate Tank Mixes:

HardBall® + Glyphosate (various formulations) may be used on all approved crops, use sites and use patterns, approved on both labels. **HardBall®** should be used at the rate of 1.5–3 pints in combination with the appropriate rate of Glyphosate per acre to provide best control of weed pest species. Consult the Glyphosate label to determine proper rate of Glyphosate to be used in combination with **HardBall®**.

COMPATIBILITY

Before full-scale mixing of this product with other herbicides, fertilizer solutions and adjuvants, it is advisable to determine the compatibility of the proposed mixture. Use proportionate quantities of each ingredient and mix in a small container. Always mix one product thoroughly with the diluent before adding another product. If no incompatibility is evident after 30 minutes, the mixture is generally compatible for spraying.

PLANTING IN TREATED AREAS

Labeled Crops: Within 29 days following an application of this product, plant only those crops named as use sites on this or other registered 2,4-D labels. Follow more specific limitations, if any, provided in the directions for individual crops. Labeled crops may be at risk for crop injury or loss when planted soon after application, especially in the first 14 days. Degradation factors described below should be considered in weighing this risk.

Other Crops: All other crops may be planted 30 or more days following an application without concern for illegal residues in the planted crop. However, under certain conditions, there may be a risk of injury to susceptible crops. Degradation factors described below should be considered in weighing this risk. Under normal conditions, any crop may be planted without risk of injury if at least 90 days of soil temperatures above freezing have elapsed since application.

Degradation Factors: When planting into treated areas, the risk of crop injury is less if lower rates of product were applied and conditions following application have been warm, moist soil conditions that favor rapid degradation of 2,4-D. Risk is greater if higher rates of product were applied and soil temperatures have been cold and/or soils have been excessively wet or dry in the days following application. Consult your local Agricultural Extension Service for information about susceptible crops and typical soil conditions in your area.

APPLICATIONS

READ ALL PROCEEDING GENERAL SECTIONS OF LABEL AND WARRANTY BEFORE USE.

Unless otherwise specified, applications may be made by ground or air equipment. Ground applications may provide more thorough coverage and better weed control. For selective postemergent weed control in crops, do not add oil, surfactant, fertilizer or other additives unless specifically recommended on this label or supplemental labeling.

GRASS PASTURES

To control many emerged broadleaf weeds, apply 1.0–4.0 pints **HardBall®** per acre. Addition of a nonionic surfactant, such as **INDUCE®** or **DYNE-AMIC®**, usually improves weed control. Preferred timing is in the early spring when sufficient weeds have emerged, and when weeds are small and actively growing, but before weeds are too mature. Summer applications to older, drought-stressed weeds are less effective. However, weeds are more susceptible again in the fall when cooler, wetter conditions support active growth before a killing frost. For fall treatment of mature weeds or perennial weed regrowth, use 3.5–8.0 pints per acre. Several seasons of spring full treatments may be necessary to control certain perennials.

For susceptible annual and biennial broadleaf weeds: Use 1.0 lbs. ae per acre per application.

For moderately susceptible biennial and perennial broadleaf weeds: Use 1–2 lbs. ae per acre per application.

For difficult-to-control weeds and wood plants: Use 2 lbs. ae per acre per application.

Plant Response: Injury may result to bent grass, other warm-season or southern grasses, and alfalfa, clover or other legumes. Do not use if this risk of injury is unacceptable. Clovers may recover from early spring applications. If grass seed production is desired, do not apply when grass is in boot to milk stage or after heading begins. Do not apply to newly seeded areas until grass is well established. Reseeding is not recommended for at least 30 days following application. Addition of a surfactant may increase the risk of injury to newly seeded grasses.

Livestock Feeding Restrictions: Do not graze dairy animals on treated areas within 7 days after application. Do not graze meat animals on treated areas within 3 days before slaughter. Do not cut treated grass for hay within 30 days of application.

RESTRICTIONS AND LIMITATIONS: GRASS PASTURES

- Plant only labeled crops within 29 days following application.
- Limited to 2 applications per year.
- Maximum of 1.15 gallons (2 lbs. ae)/acre per application.
- Minimum of 30 days between applications.
- Do not cut forage for hay within 7 days of application.
- If grass is to be cut for hay, Agricultural Use Requirements for the Worker Protection Standard are applicable.

ROADSIDES; MEDIANS; HIGHWAY, RAILROAD, UTILITY AND PIPELINE RIGHTS-OF-WAY; VACANT LOTS; AROUND UTILITY INSTALLATIONS, TRANSFORMERS, PUMP HOUSES, AND BUILDINGS; STORAGE AREAS; FENCES; GUARDRAILS; LUMBER YARDS; INDUSTRIAL SITES; AIRPORTS; TANK FARMS; FARMSTEADS; AND SIMILAR NONCROP AREAS

For the control of many broadleaf weeds and small woody plants, applications may be as broadcast sprays, small areas or spot treatments. Regardless of the method of application, use adequate spray volume for full coverage of weeds. Preferred application timing is in the early spring when sufficient weeds have emerged, and are still small and actively growing and before weeds are too mature.

Summer applications to older, drought-stressed weeds are less effective. However, weeds and small woody plants are more susceptible again in the fall when cooler, wetter conditions support active growth before a killing frost.

Postemergence (annual and perennial weeds):

- Limited to 2 applications per year.
- Maximum of 4.5 quarts (2.0 lbs.) ae/acre per application.
- Minimum of 30 days between applications.

NOTE: Plant Response: Bent grass, other warm-season or southern grasses, alfalfa, clover or other legumes may be killed or injured. Do not apply when grass is in boot to milk stage, or after heading begins, if grass production is desired. Do not apply to newly seeded areas until grass is well established. Reseeding is not recommended for at least 30 days following application. Do not make repeat applications within 30 days of the previous application. Apply no more than 4.5 quarts (2.0 lbs. acid equivalent) per acre per use season.

Postemergence (woody plants):

- Limited to 1 application per year.
- Maximum of 2.25 gallons (4.0 lbs.) ae/acre per year.

Applications to non-cropland areas are not applicable to treatment of commercial timber or other plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes.

Postemergence Control of Annual and Perennial Weeds: Apply 0.5–1 gallon of **HardBall®** to emerged weeds. For best results treat when weeds are young and actively growing.

Postemergence Control of Woody Plants: Apply 0.5–2 gallons of **HardBall®** to trees and brush when foliage is fully expanded and plants are actively growing.

Special Uses:

On rights-of-way: Up to 2.25 gallons (4.0 lbs. acid equivalent) can be applied in a single application. This includes electrical power lines, communication lines, pipelines, highways, and railroads that intersect wooded areas or stands of trees, brush and woody plants. Usage under this section is not applicable to treatment of commercial timber or other plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes.

ORNAMENTAL AND RECREATIONAL TURFGRASSES, LAWNS, GOLF COURSES (Fairways, Aprons, Tees, and Roughs), PARKS AND CEMETERIES

Do not apply more than 1.5 lbs. ae per acre per application. The maximal seasonal application rate is 3.0 lbs. ae per acre, excluding spot treatments. The maximum number of broadcast applications per treatment site is 2 per year. For best results, do not mow turf 1 to 2 days before or after application. Turf watering should be delayed for at least 1 hour after application. Avoid contacting desirable trees, shrubs, flowers or vegetables since plant injury may result. Do not apply to newly seeded areas until grass is well established and has been mowed several times. A period of about 30 days after application is usually a sufficient interval before reseeding grasses (or other plants). Seeding a small area and observing response is recommended before large-scale seeding.

Cool-Season Grasses: To control many emerged broadleaf weeds in cool-season turfgrasses such as tall fescue, bluegrass, or perennial ryegrass, apply 1.0–1.75 quarts per acre (0.75–1.28 fluid ounces per 1,000 square feet). Preferred application timing for broadcast treatment is in the early spring when small weeds have emerged and are actively growing under good moisture conditions. For very weedy turf, a follow-up broadcast or spot application may be needed from 2 to 4 weeks later. Summer applications are typically spot treatments of individual weeds that have emerged after a spring broadcast treatment. In the fall when cooler, wetter conditions favor active weed growth, broadcast application may be appropriate for very weedy turf, such as an area that had no spring broadcast treatment. Do not use on centipede, carpetgrass, St. Augustine, bentgrass or Dichondra turf, or where desirable clovers are present.

SOD FARMS

HardBall® is intended for use on Sod Farms to provide selective control of certain broadleaf weeds in cool-season and warm-season turfgrass established for commercial sod production. Apply **HardBall®** to actively growing broadleaf weeds. Follow-up may be required for dense infestations of perennial and biennial weeds. For best results, do not mow turf 1 to 2 days before or after application. Turf watering should be delayed until two days after application. Do not apply to newly seeded areas until grass is well established and has been mowed at least twice.

Reseeding Grass Areas: Do not reseed until at least 30 days after application of **HardBall®**. Seeding a small area and observing response is recommended before a large-scale seeding is accomplished.

Application Rates:

HardBall® application rates and spray volumes will vary with the growth stage and population of broadleaf weeds to be controlled. In general the smaller the weed the lower use of the listed rate range will provide satisfactory control. The larger the weed, the population and environmental conditions will require the higher end of the rate range to achieve satisfactory control especially for many of the perennial broadleaf weeds.

RATE FOR SOD FARMS		
Species	Amount of Product	Spray Volume
	Pints/acre	Gallons/Acre
Cool-Season Turf		
Kentucky Bluegrass	2 to 3.5	20 to 100
Perennial Ryegrass	2 to 3.5	20 to 100
Fescue spp.	2 to 3.5	20 to 100
Creeping Bentgrass	1.5	20 to 100
Warm-Season Turf		
Centipede grass	1.5 to 2.5	20 to 100
Common Bermudagrass	1.5 to 2.5	20 to 100
Hybrid Bermudagrass	1.5 to 2.5	20 to 100
Bahiagrass	1.5 to 2.5	20 to 100
Zoysiagrass	1.5 to 2.5	20 to 100

PRECAUTIONS AND LIMITATIONS FOR SOD FARMS

- Limited to two (2) applications per year
- Maximum of 4.5 quarts (2 lbs. ae) per acre per application
- Retreatment interval is 21 days.
- Do not apply this **HardBall®** to any variety of St. Augustinegrass. Do not use **HardBall®** on carpetgrass, Dichondra or where desirable clovers are present.
- Do not apply this product through any type of irrigation system
- Avoid drift or spray mist onto vegetables, flowers, ornamental plants, shrubs, trees, and other desirable plants. Do not pour spray solution or rinsate near any desirable plants.
- Do not apply **HardBall®** immediately before rainfall or irrigation. Do not water the turfgrass for 24 hours after application.
- Application to Bermuda grass can be during dormancy or when actively growing. Do not apply during periods of semi-dormancy or transition.

FOREST MANAGEMENT
(Including Site Prep, Forest Roadsides, Brush Control,
Established Conifer Release)

For the general control of annual, biennial and perennial broadleaf weeds and brush: Apply to emerged weeds and brush. For best results, treat when weeds and brush are young and actively growing. For broadcast applications apply no more than 2.25 gallons (4.0 lbs. ae) per acre per 12 months.

Broadcast application:

- Limited to 1 broadcast application per year.
- Maximum of 2.25 gallons (4.0 lbs. ae) per acre per broadcast application.

Basal spray, Cut Surface – Stumps, and Frill:

- Limit of one basal spray or cut surface application per year.
- Maximum of 4.5 gallons (8.0 lbs. ae) per 100 gallons of spray solution.

Injection:

- Limit to one injection application per year.
- Maximum of 2 ml of 4.0 lbs. ae formulation per injection site.

For specific use-site applications and restrictions see the appropriate site-specific instructions as follows:

Forest Site Preparation

Bud Break Spray: For control of alder, susceptible broadleaf weeds, and susceptible woody plants before planting forest seedlings, apply up to 2.0 gallons per acre in a minimum of 10 gallons spray mixture per acre. Apply as an oil spray (see "Mixing Instructions") after alder buds break, but before foliage is 1/4 full size. A water spray including 2 to 4 quarts per acre of diesel oil, fuel oil, stove oil, or crop oil concentrate may also be used.

ANNUAL, BIENNIAL, PERENNIAL BROADLEAF WEEDS AND GENERAL BRUSH CONTROL

Foliage Spray: To control seedlings and susceptible woody plants before planting forest, apply up to 2.0 gallons per acre in a minimum of 10 gallons spray mixture per acre. If desired, apply as a water spray including up to 1 quart of diesel oil, fuel oil, stove oil, or crop oil concentrate per gallon of water (see "Mixing Instructions"). For best results, apply after alder foliage has reached full size.

TREE AND BRUSH CONTROL (i.e., alder, ash, aspen, birch, black gum, cherry, elm, oak, sweet gum, tulip poplar, willow, and others)

Basal Spray Treatment: Mix 2–4 gallons of **HardBall®** per 100 gallons of diluent (may contain oil). Apply directly to base and root collar of all stems until the spray begins to accumulate at the ground line. Also wetting stems with this mixture may aid control.

Cut Surface Stumps: Mix 2–4 gallons of **HardBall®** per 100 gallons of diluent (may contain oil). Apply as soon as possible after curing trees. Thoroughly soak the entire stump with 2,4-D mixture. Also treat exposed roots and bark.

Frill: Mix 2–4 gallons of **HardBall®** per 100 gallons of diluent (may contain oil). Make frills with an axe or other tool that can cut overlapping V-shaped notches through the bark in a continuous ring around the base of the tree. Treat freshly cut frills with as much **HardBall®** mixture as they will hold.

Injection: Make injections as near to the root collar as possible, using one injection per inch of trunk dbh (4-1/2 feet) for resistant species such as hickory. Injections should overlap. For best results, injections should be made during the growing season (May 15th through October 15th in many areas). The injection bit must penetrate the bark. Apply 2–4 ml of **HardBall®** per injection site.

Conifer Release: To control alder, susceptible broadleaf weeds, and susceptible woody plants in young conifer stands, apply up to 1 gallon per acre in a minimum of 10 gallons spray mixture per acre. This spring foliage treatment should be applied as a water spray when 3/4 of the brush foliage has full-sized leaves and before new conifer growth reaches 2 inches in length. Such stages usually occur between early May and mid-June, but application timing should be based on growth stages of brush and conifers. Application may cause leader deformation and other conifer injury, but trees should overcome it during the next growing season.

To control tanoak, madrone, ceanothus, canyon live oak, and manzanita, and to release Douglas fir, hemlock, Sitka spruce or grand fir, apply up to 1.5 gallons per acre in a minimum of 10 gallons spray mixture per acre. This spring foliage treatment should be applied as a water spray including, if desired, up to 1 quart of diesel oil, fuel oil, stove oil, or crop oil concentrate per gallon of water (see "Mixing Instructions"). Make application before new growth on Douglas fir is 2 inches long. To release ponderosa pine from the same species, treat before new pine growth begins in the spring. Addition of oil or oil concentrate may cause unacceptable injury to pines. For dormant applications in late winter or early spring for control of susceptible woody species such as alder, willow, poplars, cherry, vine maple, ceanothus, tanoak, madrone, and manzanita, apply up to 1.5 gallons per acre in a minimum of 10 gallons spray mixture per acre. This dormant treatment should be applied in diesel oil, fuel oil, stove oil, or other suitable diluent such as water plus crop oil concentrate (see "Mixing Instructions"). Do not use in plantations where pine and larch are among the desired crop species.

To control hazel brush in the Lake states, apply up to 1.0 gallon per acre in a minimum of 10 gallons spray mixture per acre. Apply as a water spray when new shoot growth of hazel is complete (usually mid-July).

After conifer species such as white pine, ponderosa pine, jack pine, red pine, black spruce, white spruce, red spruce, and balsam fir cease growth and harden off and brush is still actively growing in late summer, apply up to 1.5 gallons per acre in a minimum of 10 gallons spray mixture per acre. Apply as a water spray to control certain competing hardwoods such as alder, aspen, birch, hazel and willow. However, if possible injury cannot be tolerated, do not use since this treatment may cause conifer injury.

(continued)

Forest Roadsides: To control susceptible broadleaf weeds and woody plants on forest roadsides, apply 0.5–1.5 gallons per acre in a minimum of 10 gallons spray mixture per acre. Apply as a water spray and, if desired, include up to 3 quarts per acre of diesel oil, fuel oil, stove oil, or crop oil concentrate (see “Mixing Instructions”). Apply when sufficient foliage is present for absorption.

Established Conifers (including Christmas trees):

Directed Spray or Spot Spray: To control susceptible broadleaf weeds, mix up to 1.0 gallon per 100 gallons of water and apply to emerged weeds in the spring with ground equipment. Avoid contacting conifer foliage with spray or drift as injury may result. For brush, mix 2.0 gallons per 100 gallons of water. Thoroughly spray brush in full foliage, but avoid contacting conifer foliage with spray or drift. Do not apply more than the equivalent of 2.0 gallons per acre.

Over-the-Top Broadcast Application: To control susceptible broadleaf weeds, apply 0.5 gallon per acre in a minimum of 10 gallons spray mixture per acre. To decrease the potential for injury to firs, apply only before bud break in the spring and/or after complete bud set and hardening in the late summer or fall. Avoid treatment during the year of intended harvest.

AQUATIC WEED CONTROL

Notice to Applicators: Before application, coordination and approval of local and state authorities may be required, either by letter of agreement or issuance of special permits for such use.

Ground or Surface Application: Do not apply when wind speeds are at or above 10 mph.

Air Application: Do not apply when wind speeds are at or above 5 mph. The restrictions do not apply to subsurface applications used in weed control programs.

DITCH BANK APPLICATION:

RESTRICTIONS AND LIMITATIONS: WEED AND BRUSH ON IRRIGATION CANAL DITCHBANKS

- Postemergence:
 - Limited to 2 applications per season.
 - Maximum of 1.15 gallons (2 lbs. ae) per acre per application.
 - Maximum of 2.25 gallons (4 lbs. ae) per acre per season
 - Minimum of 30 days between applications.
- **Spot treatment permitted.**
- Do not use on small canals with a flow rate less than 10 cubic feet per second (CFS) where water will be used for drinking purposes. CFS may be estimated by using the formula below. The approximate velocity needed for the calculation can be determined by observing the length of time that it takes a floating object to travel a defined distance. Divide the distance (ft.) by the time (sec.) to estimate velocity (ft. per sec.) Repeat 3 times and use the average to calculate CFS.

$$\text{Average Width (ft.)} \times \text{Average Depth (ft.)} \times \text{Average Velocity (ft. per sec.)} = \text{CFS}$$

- **Note: For ditchbank weeds:**
 - Do not allow boom spray to be directed onto water surface.
 - Do not spray across stream to opposite bank.
- When spraying shoreline weeds, allow no more than 2-foot overspray onto water with an average of less than one-foot overspray to prevent introduction of greater than negligible amounts of chemical into the water.

Use power sprayers operated with a boom or spray gun mounted on a boat, tractor, or truck. Thorough wetting of foliage is essential for maximum control. Use 100 to 400 GPA of spray mixture. Special precautions such as the use of low pressure, large nozzles and thickening agents should be taken to avoid spray drift in areas of sensitive crops. For **DIRECTASPRAY™** operation, use with 1 pint of drift control agent in 50 to 100 gallons of water. For other applications, follow the drift control agent label for mixing directions.

FOR AQUATIC WEEDS IN LAKES, PONDS, RESERVOIRS, MARSHES, BAYOUS, DRAINAGE DITCHES, CANALS, AND RIVERS AND STREAMS THAT ARE QUIESCENT OR SLOW MOVING INCLUDING PROGRAMS OF THE TENNESSEE VALLEY AUTHORITY: Use 1–5 gallons of **HardBall®** per acre foot. For best results, apply in spring or early summer. A second treatment may be needed when weeds show signs of recovery, but no later than September in most areas. Spray to wet foliage thoroughly. Application should be made when leaves are fully developed above water line and plants are actively growing. Apply to attain a concentration of 2 to 4 ppm.

(continued)



EMERGENT AND FLOATING WEEDS

Surface Application: Apply 2.3 gallons per acre in a minimum spray volume of 5 gallons mix per acre.

Air Application: Use drift control spray equipment or thickening agents mixed into the spray solution. Apply 2.3 gallons per acre through standard boom systems with a minimum of 5 gallons of spray mix per acre. For **MICROFOIL®** drift control spray systems, apply in 12–15 gallons spray mix per acre.

- Maximum of 2.3 gallons (4.0 lbs. ae)/surface acre per application.
- Limited to 2 applications per season.
- Minimum of 21 days between applications.
- Spot treatments are permitted.

Apply to emergent aquatic weeds in ponds, lakes, reservoirs, marshes, bayous, drainage ditches, non-irrigation canals, rivers, and streams that are quiescent or slow moving. Coordination and approval of local and state authorities may be required, either by letter of agreement or issuance of special permits for aquatic applications.

Water Use:

1. Water for irrigation or sprays:

- A. If treated water is intended to be used only for crops or non-crop areas that are labeled for direct treatment with 2,4-D such as pastures, turf or cereal grains, the treated water may be used to irrigate and/or mix sprays for these sites at any time after the 2,4-D aquatic application.
- B. Due to potential phytotoxicity considerations, the following restrictions are applicable: If treated water is intended to be used to irrigate or mix sprays for plants grown in commercial nurseries and greenhouses; and other plants or crops that are not labeled for direct treatment with 2,4-D, the water must not be used unless one of the following restrictions has been observed:
 - i. A setback distance from functional water intake(s) of ≥ 600 ft. was used for the application, or,
 - ii. A waiting period of 7 days from the time of application has elapsed, or,
 - iii. An approved assay indicates that the 2,4-D concentration is 100 ppb (0.1 ppm) or less at the water intake. Wait at least 3 days after application before initial sampling at water intake.

2. Drinking water (potable water):

- A. Consult with appropriate state or local water authorities before applying this product to public waters. State or local agencies may require permits. The potable water use restrictions on this label are to ensure that consumption of water by the public is allowed only when the concentration of 2,4-D in the water is less than the MCL (Maximum Contaminant Level) of 70 ppb. Applicators should consider the unique characteristics of the treated waters to assure that 2,4-D concentrations in potable water do not exceed 70 ppb at the time of consumption.
- B. For floating and emergent weed applications, the drinking water setback distance from functioning potable water intakes is ≥ 600 ft.
- C. If no setback distance of ≥ 600 ft. is used for the application, applicators or the authorizing organization must provide a drinking water notification prior to a 2,4-D application to the party responsible for a public water supply or to individual private water users. Notification to the party responsible for a public water supply or to individual private water users must be done in a manner to assure that the party is aware of water use restrictions when this product is applied to potable water. The following is an example of notification via posting, but other methods of notification which convey the above restrictions may be used and may be required in some cases under state or local law or as a condition of a permit.

Example:

Posting notification should be located every 250 feet including the shoreline of the treated area and up to 250 feet of shoreline past the application site to include immediate public access points. Posting must include the day and time of application. Posting may be removed if analysis of a sample collected at the intake 3 or more days following application shows that the concentration in the water is less than 70 ppb (100 ppb for irrigation or sprays), or after 7 days following application, whichever occurs first.

Text of notification: Wait 7 days before diverting functioning surface water intakes from the treated aquatic site to use as drinking water, irrigation, or sprays, unless water at functioning drinking water intakes is tested at least 3 days after application and is demonstrated by assay to contain not more than 70 ppb 2,4-D (100 ppb for irrigation or sprays).

Application Date: _____ Time: _____.

(continued)



- D.** Following each application of this product, treated water must not be used for drinking water unless one of the following restrictions has been observed:
- A setback distance from functional water intake(s) of ≥ 600 ft. was used for the application, or,
 - A waiting period of at least 7 days from the time of application has elapsed, or,
 - An approved assay indicates that the 2,4-D concentration is 70 ppb (0.07 ppm) or less at the water intake. Sampling for drinking water analysis should occur no sooner than 3 days after 2,4-D application. Analysis of samples must be completed by a laboratory that is certified under the Safe Drinking Water Act to perform drinking water analysis using a currently approved version of analytical Method Number 515, 555, other methods for 2,4-D as may be listed in Title 40CFR, Part 141.24, or Method Number 4015 (immunoassay of 2,4-D) from U.S. EPA Test Methods for Evaluating Solid Waste SW-846.
- E. Note:** Existing potable water intakes that are no longer in use, such as those replaced by a connection to municipal water system or a potable water well, are not considered to be functioning potable water intakes.
- F.** Drinking water setback distances do not apply to terrestrial applications of 2,4-D adjacent to water bodies with potable water intakes.
- 3.** Except as stated above, there are no restrictions on using water from treated areas for swimming, fishing, watering livestock or domestic purposes.

SUBMERGED AQUATIC WEEDS

Subsurface Application: Apply 2.5–6.2 gallons per acre-foot as a concentrate directly into the water through boat mounted distribution systems.

- Maximum of 10.8 lbs. ae/per acre-foot per application.
- Limited to 2 applications per season.
- Apply to aquatic weeds in ponds, lakes, reservoirs, marshes, bayous, drainage ditches, non-irrigation canals, rivers, and streams that are quiescent or slow moving.
- Do not apply within 21 days of previous application.
- When treating moving bodies of water, applications must be made while traveling upstream to prevent concentration of 2,4-D downstream from the application.
- Coordination and approval of local and state authorities may be required, either by letter of agreement or issuance of special permits for such use.

TABLE 1. AMOUNT OF 2,4-D TO APPLY FOR A TARGET SUBSURFACE CONCENTRATION

Surface Area	Average Depth	For typical conditions – 2 ppm 2,4-D ae/ acre-foot	For difficult conditions* – 4 ppm 2,4-D ae/ acre-foot
1 acre	1 ft.	5.4 lbs.	10.8 lbs.
	2 ft.	10.8 lbs.	21.6 lbs.
	3 ft.	16.2 lbs.	32.4 lbs.
	4 ft.	21.6 lbs.	43.2 lbs.
	5 ft.	27.0 lbs.	54.0 lbs.
*Examples include spot treatment of pioneer colonies of Eurasian Water Milfoil and certain difficult-to-control aquatic species.			

Water Use:**1. Water for irrigation or sprays:**

- A.** If treated water is intended to be used only for crops or non-crop areas that are labeled for direct treatment with 2,4-D such as pastures, turf or cereal grains, the treated water may be used to irrigate and/or mix sprays for these sites at any-time after the 2,4-D aquatic application.
- B.** Due to potential phytotoxicity and/or residue considerations, the following restrictions are applicable: If treated water is intended to be used to irrigate or mix sprays for unlabeled crops, non-crop areas or other plants not labeled for direct treatment with 2,4-D, the water must not be used unless one of the following restrictions has been observed:
 - i.** A setback distance described in the Drinking Water Setback Table was used for the application, or,
 - ii.** A waiting period of 21 days from the time of application has elapsed, or,
 - iii.** An approved assay indicates that the 2,4-D concentration is 100 ppb (0.1 ppm) or less at the water intake. See **Table 3** for the waiting period after application but before taking the initial sampling at water intake.

2. Drinking water (potable water):

- A.** Consult with appropriate state or local water authorities before applying this product to public waters. State or local agencies may require permits. The potable water use restrictions on this label are to ensure that consumption of water by the public is allowed only when the concentration of 2,4-D in the water is less than the MCL (Maximum Contaminant Level) of 70 ppb. Applicators should consider the unique characteristics of the treated waters to assure that 2,4-D concentrations in potable water do not exceed 70 ppb at the time of consumption.
- B.** For submersed weed applications, the drinking water setback distances from functioning potable water intakes are provided in **Table 2. Drinking Water Setback Distance** (below).
- C.** If no setback distance from the **Drinking Water Setback Table (Table 2)** is to be used for the application, applicators or the authorizing organization must provide a drinking water notification and an advisory to shut off all potable water intakes prior to a 2,4-D application. Notification to the party responsible for a public water supply or to individual private water users must be done in a manner to assure that the party is aware of the water use restrictions when this product is applied to potable water. The following is an example of notification via posting, but other methods of notification which convey the above restrictions may be used and may be required in some cases under state or local law or as a condition of a permit.

Example:

Posting notification should be located every 250 feet including the shoreline of the treated area and up to 250 feet of shoreline past the application site to include immediate public access points. Posting should include the day and time of application. Posting may be removed if analysis of a sample collected at the intake no sooner than stated in **Table 3** (below) shows that the concentration in the water is less than 70 ppb (100 ppb for irrigation or sprays), or after 21 days following application, whichever occurs first.

Text of notification: Wait 21 days before diverting functioning surface water intakes from the treated aquatic site to use as drinking water, irrigation, or sprays, unless water at functioning drinking water intakes is tested no sooner than (insert days from **Table 3**) and is demonstrated by assay to contain not more than 70 ppb 2,4-D (100 ppb for irrigation or sprays).

Application Date: _____ Time: _____.

- D.** Following each application of this product, treated water must not be used for drinking water unless one of the following restrictions has been observed:
 - i.** A setback distance described in the Drinking Water Setback Distance Table was used for the application, or,
 - ii.** A waiting period of at least 21 days from the time of application has elapsed, or,
 - iii.** An approved assay indicates that the 2,4-D concentration is 70 ppb (0.07 ppm) or less at the water intake. Sampling for drinking water analysis should occur no sooner than stated in **Table 3**. Analysis of samples must be completed by a laboratory that is certified under the Safe Drinking Water Act to perform drinking water analysis using a currently approved version of analytical Method Number 515, 555, other methods for 2,4-D as may be listed in Title 40CFR, Part 141.24, or Method Number 4015 (immunoassay of 2,4-D) from U.S. EPA Test Methods for Evaluating Solid Waste SW-846.
- E. Note:** Existing potable water intakes that are no longer in use, such as those replaced by a connection to a municipal water system or a potable water well, are not considered to be functioning potable water intakes.
- F.** Drinking water setback distances do not apply to terrestrial applications of 2,4-D adjacent to water bodies with potable water intakes.
- 3.** Except as stated above, there are no restrictions on using water from treated areas for swimming, fishing, watering livestock or domestic purposes.

TABLE 2. DRINKING WATER SETBACK DISTANCE FOR SUBMERSED WEED APPLICATIONS

Application Rate and Minimum Setback Distance (feet) from Functioning Potable Water Intake			
1 ppm*	2 ppm*	3 ppm*	4 ppm*
600	1200	1800	2400

*ppm acid equivalent target water concentration

TABLE 3. SAMPLING FOR DRINKING WATER ANALYSIS AFTER 2,4-D APPLICATION FOR SUBMERSED WEED APPLICATIONS

Minimum Days After Application Before Initial Water Sampling at the Functioning Potable Water Intake			
1 ppm*	2 ppm*	3 ppm*	4 ppm*
5	10	10	14

*ppm acid equivalent target water concentration

WATER HYACINTH (*Eichornia crassipes*): For control of actively growing plants with surface and air applications, use 4–8 pints per acre. **Spray the weed mass only.** Use 8 pints when plants are matured or when the weed mass is dense.

WATER MILFOIL (*Myriophyllum spicatum*): For Eurasian Water Milfoil in programs conducted by the Tennessee Valley Authority (TVA) in dams and reservoirs of the TVA system, **HardBall®** will control Water Milfoil with surface, subsurface and air applications.

To control water milfoil when less than 5 gallons of concentrate per acre is specified, dilute the concentrate with water to apply a minimum of 5 gallons of spray mix per acre. Do not treat within 1/2 mile of potable water intakes. Shoreline areas should be treated by sub-surface injection applied by boat to avoid aerial drift. Do not apply when weather conditions favor drift from target area.

RESTRICTIONS AND LIMITATIONS FOR AQUATIC USE:

- Do not exceed 4.0 lbs. acid equivalent per surface acre per application.
- Do not reapply less than 3 weeks after prior application.
- Do not apply within 1,500 feet of active potable water intakes.

Fish breathe dissolved oxygen in the water and a water/oxygen ratio must be maintained. Decaying weeds use up oxygen. When treating continuous, dense weed masses, it may be appropriate to treat only part of the infestation at a time. For example, apply **HardBall®** in lanes separated by untreated strips that can be treated after vegetation in treated lanes has disintegrated. During the growing season, weeds decompose in a 2- to 3-week period following treatment. Waters having limited and less dense weed infestations may not require partial treatments. Other local factors such as water exchange and sediment load can also influence the dissolved oxygen level.

To avoid fish kill from decaying plant material, do not treat more than one-half the lake or pond at one time. For large bodies of weed infested waters, leave buffer strips of at least 100 feet wide and delay treatment of these strips for 4 to 5 weeks or until the dead vegetation has decomposed.

Water Use Instructions:

Unless an approved assay indicates that the 2,4-D concentration is 100 ppb (0.1 ppm) or less, or only growing crops and non-crop areas labeled for direct treatment with 2,4-D will be affected, do not use water from treated areas for:

1. Irrigating plants (especially cotton, grapes, and tomatoes).
2. Mixing sprays for agricultural or ornamental plants.

Unless an approved assay indicates the 2,4-D concentration is 70 ppb (0.07 ppm) or less, do not use water from treated areas for potable water (drinking water).

Except as stated above, there are no restrictions on using water from treated areas for fishing, watering livestock or domestic purposes.

CONDITIONS OF SALE – LIMITED WARRANTY AND LIMITATIONS OF LIABILITY AND REMEDIES

Read the Conditions of Sale – Warranty and Limitations of Liability and Remedies before using this product. If the terms are not acceptable, return the product, unopened, and the full purchase price will be refunded.

The directions on this label are believed to be reliable and must be followed carefully. Insufficient control of pests and/or injury to the crop to which the product is applied may result from the occurrence of extraordinary or unusual weather conditions or the failure to follow the label directions or good application practices, all of which are beyond the control of Helena Chemical Company (the "Company") or seller. In addition, failure to follow label directions may cause injury to crops, animals, man or the environment. The Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purpose referred to in the directions for use subject to the factors noted above which are beyond the control of the Company. To the extent consistent with applicable law, the Company makes no other warranties or representations of any kind; express or implied, concerning the product, including no implied warranty of merchantability or fitness for any particular purpose, and no such warranty shall be implied by law.

To the extent consistent with applicable law, the exclusive remedy against the Company for any cause of action relating to the handling or use of this product shall be limited to, at Helena Chemical Company's election, one of the following:

1. Refund of the purchase price paid by buyer or user for product bought, or
2. Replacement of the product used

To the extent consistent with applicable law, the Company shall not be liable and any and all claims against the Company are waived for special, indirect, incidental, or consequential damages or expense of any nature, including, but not limited to, loss of profits or income. The Company and the seller offer this product and the buyer and user accept it, subject to the foregoing conditions of sale and limitation of warranty, liability and remedies.

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NOTES

Specimen Label

AMINOPYRALID

GROUP

4

HERBICIDE



Milestone®

HERBICIDE

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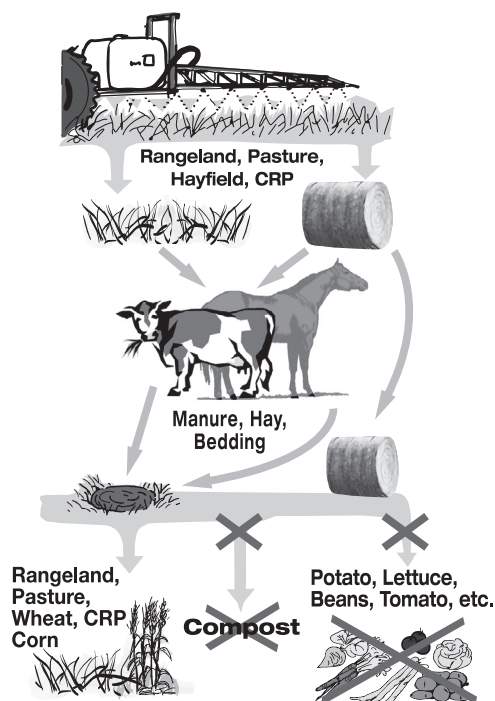
- For control of annual and perennial broadleaf weeds including invasive and noxious weeds, certain annual grasses, and certain woody plants and vines on:
 - rangeland, permanent grass pastures (including grasses grown for hay*), Conservation Reserve Program (CRP);
 - non-crop areas for example, airports, barrow ditches, communication transmission lines, electric power and utility rights-of-way, fencerows, gravel pits, industrial sites, military sites, mining and drilling areas, oil and gas pads, non-irrigation ditch banks, parking lots, petroleum tank farms, pipelines, roadsides, railroads, storage areas, dry storm water retention areas, substations, unimproved rough turf grasses;
 - natural areas (open space) for example, campgrounds, parks, prairie management, trailheads and trails, recreation areas, wildlife openings, and wildlife habitat and management areas including seasonally dry flood plains, deltas, marshes, prairie potholes, or vernal pools;
 - including grazed areas in and around these sites.

*Hay from grass treated with Milestone within the preceding 18 months can only be used on the farm or ranch where the product is applied unless allowed by supplemental labeling.

IMPORTANT USE PRECAUTIONS AND RESTRICTIONS TO PREVENT INJURY TO DESIRABLE PLANTS

- Carefully read the section “**Restrictions in Hay or Manure Use.**”
- It is mandatory to follow the “**Use Precautions and Restrictions**” section of this label.
- Manure and urine from animals consuming grass or hay treated with this product may contain enough aminopyralid to cause injury to sensitive broadleaf plants.
- Hay can only be used on the farm or ranch where product is applied unless allowed by supplemental labeling.
- Consult with a Corteva Agriscience representative if you do not understand the Use Precautions and Use Restrictions. **Call 1-800-258-3033 Customer Information Group.**

Forage and Manure Management



Not for Sale, Sale into, Distribution, and/or Use in Nassau and Suffolk counties of New York State.

Active Ingredient:

Triisopropanolammonium salt of 2-pyridine carboxylic acid, 4-amino-3,6-dichloro-.....	40.6%
Other Ingredients	59.4%
Total	100.0%

Acid Equivalent: aminopyralid (2-pyridine carboxylic acid, 4-amino-3,6-dichloro-) - 21.1% - 2 lb/gal

Container Use Directions

1 - Tip



Tilt container to angle as shown and fill head to desired amount – use vertical scale for measuring. Container should be closed.

2 - Level



Hold container up-right and check the amount for accuracy. Add or subtract as needed, using pour-back scale as guide.

3 - Dispense



Remove cap on head and pour into sprayer or other devices. No fluid will pour from the main container. Replace cap for storage in sealed condition.

Precautionary Statements

Hazards to Humans and Domestic Animals

EPA Reg. No. 62719-519

Keep Out of Reach of Children

CAUTION

Causes Moderate Eye Irritation

Avoid contact with eyes or clothing.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks

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.

User Safety Recommendations

Users should:

- 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.

First Aid

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

Environmental Hazards

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.

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.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

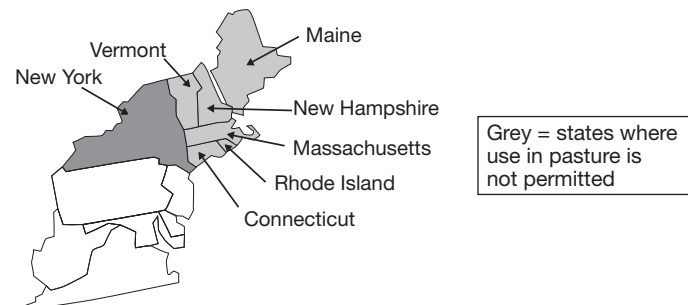
Read all Directions for Use carefully before applying.

This product is not intended for reformulation or repackaging into other end-use products.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Not for Sale, Sale into, Distribution, and/or Use in Nassau and Suffolk counties of New York State.

Not for use on pastures in Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. All other labeled uses are permitted in these states including grazed areas in and around these sites.



Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about Personal Protective Equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 hours.

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:

- Coveralls
- Chemical-resistant gloves made of any waterproof material as polyethylene or polyvinyl chloride
- Shoes plus socks
- Protective eyewear

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for Agricultural Pesticides (40 CFR Part 170). The WPS does not pertain to non-agricultural use on sites, such as, rangeland, permanent grass pastures, or non-cropland. See the Agricultural Use Requirements section below for information where the WPS applies.

Entry Restrictions for Non-WPS Uses: For applications on rangeland and permanent grass pastures (not harvested for hay) and non-cropland areas, do not enter or allow worker entry into treated areas until sprays have dried.

Storage and Disposal

Do not contaminate water, food, feed, or fertilizer by storage or disposal.

Pesticide Storage: If this product is exposed to subfreezing temperatures, the active ingredient may crystallize and settle out of solution. Under these conditions the product should be warmed to at least 40°F and agitated well to dissolve any crystallized active ingredient prior to use.

Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Open dumping is prohibited.

Nonrefillable containers 5 gallons or less:

Container Handling: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Storage and Disposal (Cont.)

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable containers larger than 5 gallons:

Container Handling: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

Nonrefillable containers larger than 5 gallons:

Container Handling: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

susceptible crops and other plants such as grapes, soybeans, tobacco, sensitive ornamentals.

• Grass revegetation:

- Milestone can be used to control broadleaf plants in grass revegetation programs. Consult Corteva Agriscience literature for more details about Milestone applications and grass stand establishment.

• Application before seeding grasses

- Milestone can be applied to control broadleaf weeds prior to grass planting. Grass seed germination and seedling development can be adversely effected by many factors such as seed viability and seedling vigor, soil condition (sub-optimal soil temperatures or soil water content), weather after planting, seedbed preparation and seed placement, disease, insects, or animals. Milestone applications will help to reduce competition from weeds and improve the chance for successful grass stand establishment. Some grass species are more sensitive to Milestone; consult Corteva Agriscience literature for more details.

- **Postemergence applications on grass:** During the season of establishment, Milestone should be applied only after perennial grasses are well established (have developed a good secondary root system and show good vigor). Most perennial grasses are tolerant to Milestone at this stage of development. Milestone may suppress certain established grasses such as smooth brome (grass) (*Bromus inermis*), especially when plants are stressed by adverse environmental conditions. Plants should recover from this transient suppression with the onset of environmental conditions favorable to grass growth and upon release from weed competition.

• Seeding Broadleaf Plants (Forbs) and Wildflowers

Milestone can be applied in the summer to control broadleaf weeds prior to forb planting. Forbs can be seeded 90 days after a summer application as a dormant fall planting or the following spring. Consult Corteva Agriscience literature for details.

- **Field Bioassay Instructions:** In fields previously treated with this product, plant short test rows of the intended rotational crop across the original direction of application in a manner to sample variability in field conditions such as soil texture, soil organic matter, soil pH, rainfall pattern, or drainage. The field bioassay can be initiated one year after the last application of aminopyralid in that field. Observe the test crop for symptoms of herbicidal activity such as poor stand (effect on seed germination), chlorosis (yellowing), epinasty, necrosis (dead leaves or shoots), or stunting (reduced growth). If herbicidal symptoms do not occur, the test crop can be grown. If there is apparent herbicidal activity, do not plant the field to the intended rotational crop; plant only to wheat, forage grasses, native grasses, or grasses grown for hay.

Consult with a Corteva Agriscience representative if you do not understand the Use Precautions and Use Restrictions. Call 1-800-258-3033 for more information.

Pasture and Rangeland Restrictions

- **Do not use grasses treated with Milestone in the preceding 18 months for hay intended for export outside the United States.**
- **Hay from areas treated with Milestone in the preceding 18 months CANNOT be distributed or made available for sale off the farm or ranch where harvested unless allowed by supplemental labeling.**
- **Hay from areas treated with Milestone in the preceding 18 months CANNOT be used for silage, haylage, baleage, and green chop unless allowed by supplemental labeling.**
- **Do not move hay made from grass treated with Milestone within the preceding 18 months off farm unless allowed by supplemental labeling.**
- **Do not use hay or straw from areas treated with Milestone within the preceding 18 months or manure from animals feeding on hay treated with Milestone in compost.**
- **Do not use grasses treated with Milestone in the preceding 18 months for seed production.**

Resistance Management Guidelines

This product contains aminopyralid, a Group 4 synthetic auxin.

Appropriate resistance-management strategies should be followed.

- Development of plant populations resistant to this herbicide mode of action is usually not a problem on rangeland, permanent grass pastures, Conservation Reserve Program (CRP), or non-cropland sites since these sites receive infrequent pesticide applications.
- In croplands, use an effective integrated pest management (IPM) program, integrating tillage or other mechanical methods, crop rotation, or other cultural control methods into weed control programs whenever practical.
- Similar looking biotypes of a given weed species occurring in a treated area may vary in their susceptibility to a herbicide. Application of a herbicide below its labeled rate may allow more tolerant weeds to survive and a shift to more tolerant biotypes within the treated area.
- Where identified, spreading of resistant weeds to other fields may be prevented by cleaning harvesting and tillage equipment before moving to other areas and by planting weed-free seed.
- Contact your extension specialist, certified crop consultant, or a Corteva Agriscience customer service representative 1-800-258-3033 for the latest resistance-management information.

Use Precautions

- 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 Milestone. Injury to crops may result if treated soil and/or runoff water containing Milestone is washed or moved onto land used to produce crops. Exposure to Milestone may injure or kill

Restrictions for All Uses

Maximum Application Rate: On all labeled use sites, do not broadcast apply more than 7 fl oz per acre of Milestone per year. The total amount of Milestone applied broadcast, as a re-treatment, and/or spot treatment cannot exceed 7 fl oz per acre per year. Spot treatments may be applied at an equivalent broadcast rate of up to 0.22 lb acid equivalent (14 fl oz of Milestone) per acre per year; however, not more than 50% of an acre may be treated at that rate. Do not apply more than a total of 0.11 lb acid equivalent (7 fl oz) per acre of Milestone per year as a result of broadcast, spot, or repeat applications.

Obtain Required Permits: Consult with appropriate state or local water authorities before applying this product around public waters. State or local public agencies may require permits.

- **Avoiding Injury to Non-Target Plants:** Do not aerially apply Milestone within 50 feet of a border downwind (in the direction of wind movement), or allow spray drift to come in contact with any broadleaf crop or other desirable broadleaf plants, including, but not limited to, alfalfa, cotton, dry beans, flowers, grapes, lettuce, potatoes, radishes, soybeans, sugar beets, sunflowers, tobacco, tomatoes or other broadleaf or vegetable crop, fruit trees, ornamental plants, or soil where sensitive crops are growing or will be planted. Avoid application under conditions that may allow spray drift because very small quantities of spray may seriously injure susceptible crops. Read and consider the Spray Drift Management and Aerial Drift Reduction Advisory to help minimize the potential for spray drift.
- **Chemigation:** Do not apply this product through any type of irrigation system.
- **Do not contaminate water intended for irrigation or domestic purposes.** Do not treat inside banks or bottoms of irrigation ditches, either dry or containing water, or other channels that carry water that may be used for irrigation or domestic purposes.
- Do not apply this product to lawns, turf, ornamental plantings, urban walkways, driveways, tennis courts, golf courses, athletic fields, commercial sod operations, or other high-maintenance, fine turfgrass areas, or similar areas.
- Trees adjacent to or in a treated area can occasionally be affected by root uptake of Milestone. Do not apply Milestone within the root zone of desirable trees unless such injury can be tolerated. Use special caution near roses and leguminous trees such as locusts, redbud, mimosa, and caragana.
- Do not treat frozen soil where runoff could damage sensitive plants.
- **Grazing and Haying Restrictions:** There are no restrictions on grazing or grass hay harvest following application of Milestone at labeled rates. Cutting hay too soon after spraying weeds will reduce weed control. Wait 14 days after herbicide application to cut grass hay to allow herbicide to work. Do not transfer grazing animals from areas treated with Milestone to areas where sensitive broadleaf crops occur without first allowing 3 days of grazing on an untreated pasture. Otherwise, urine and manure may contain enough aminopyralid to cause injury to sensitive broadleaf plants.
- **Grazing Poisonous Plants:** Herbicide application may increase palatability of certain poisonous plants. Do not allow livestock to graze treated areas until poisonous plants are dry and no longer palatable to livestock.
- **Restrictions in Hay or Manure Use:**
 - ◆ Do not use aminopyralid-treated plant residues, including grass, wood plants, trees, hay, or straw from areas treated within the preceding 18 months, in compost, mulch wood chips, or mushroom spawn.
 - ◆ Do not use manure from animals that have eaten aminopyralid-treated forage or hay within the previous 3 days in compost, mulch, or mushroom spawn. Livestock must have 3 days of eating non-aminopyralid-treated materials in order to clear their system of aminopyralid. Do not use aminopyralid-treated plants in areas where commercially grown mushrooms or susceptible broadleaf plants may be grown.
 - ◆ Do not spread manure from animals that have consumed aminopyralid-treated forage or hay within the previous 3 days on land used for growing susceptible broadleaf crops.
 - ◆ Manure from animals that have consumed aminopyralid-treated forage or hay within the previous 3 days may only be used on areas used for pasture, grass grown for seed, wheat, and corn.
 - ◆ Do not plant a broadleaf crop (including soybeans, sunflower, tobacco, vegetables, field beans, peanuts, and potatoes) in fields or areas treated with aminopyralid or manure from animals that have grazed forage or eaten hay harvested from aminopyralid-treated areas until an adequately sensitive field bioassay is conducted to determine that the aminopyralid concentration in the soil is at level that is not injurious to the crop to be planted.

- ◆ Do not plant a broadleaf crop in fields or areas treated in the previous year with manure from animals that have consumed aminopyralid-treated forage or hay until an adequately sensitive field bioassay is conducted to determine that the aminopyralid concentration in the soil is at level that is not injurious to the crop to be planted.
- ◆ To promote herbicide decomposition, plant residues should be evenly incorporated in the surface soil or burned. Breakdown of aminopyralid in plant residues or manure is more rapid under warm, moist soil conditions and may be enhanced by supplemental irrigation.
- **Crop Rotation:** Do not rotate to any crop from rangeland, permanent pasture, or CRP acres within one year following treatment. Cereals and corn can be planted one year after treatment. Broadleaf crops are sensitive to aminopyralid residues in the soil and prediction of crop safety by field bioassay (see instructions below) is the BEST way to determine planting options. Broadleaf crops such as canola, flax, and alfalfa can require **at least 2 to 3 years** depending on the crop and environmental conditions. More sensitive crops such as soybeans, tobacco, peanuts, potatoes, and peas may require a longer plant-back interval and should not be planted until a field bioassay shows that the level of aminopyralid present in the soil will not adversely affect that broadleaf crop.

Spray Drift Management

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

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. Do not use a thickening agent with Microfoil, Thru-Valve booms, or other spray delivery systems that cannot accommodate thickened spray solutions.

Importance of Droplet Size

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.

Ground Equipment: 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). Avoid calm conditions which may be conducive to thermal inversions. Direct sprays no higher than the tops of target vegetation and keep spray pressures low enough to provide coarse spray droplets to minimize drift.

Aerial Application: Avoid spray drift at the application site. The interaction of many equipment-related and weather-related factors determine the potential for spray drift. Users are responsible for considering all these factors when making decisions.

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 wing span 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.

Aerial Drift Reduction Advisory

Information on Droplet Size: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

Controlling Droplet Size:

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Do not exceed the nozzle manufacturer's specified pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles** - Use the minimum number of nozzles that will provide uniform coverage.
- **Nozzle Orientation** - Orient nozzles so that the spray is released parallel to the airstream to produce larger droplets than other orientations. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length: The distance of the outer most operating nozzles on the boom must not exceed 75% of wingspan for airplanes or 85% of rotor blade diameter for helicopters.

Application Height: Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment: When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller drops, etc.).

Wind: Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors including droplet size and equipment type determine drift potential at any given speed. Application should be avoided when wind speeds are below 2 mph due to variable wind direction and high inversion potential. **Note:** Local terrain such as valleys and ravines can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity: When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions: Applications should not occur during a local, low-level temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of the smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sprayer Clean-Out Instructions

It is recommended to use separate spray equipment on highly sensitive crops such as tobacco, soybeans, potatoes, peanuts, and tomatoes.

Do not use spray equipment used to apply Milestone for other applications to land planted to, or to be planted to, broadleaf plants unless it has been determined that all residues of this herbicide have been removed by thorough cleaning of equipment.

Equipment used to apply Milestone should be thoroughly cleaned before reusing to apply any other chemicals as follows:

1. Rinse and flush application equipment thoroughly after use. Dispose of rinse water in non-cropland area away from water supplies.
2. Rinse a second time, adding 1 quart of household ammonia or tank cleaning agent for every 25 gallons of water. Circulate the solution through the entire system so that all internal surfaces are contacted (15 to 20 minutes). Let the solution stand for several hours, preferably overnight.
3. Flush the solution out of the spray tank through the boom.
4. Rinse the system twice with clean water, recirculating and draining each time.
5. Spray nozzles and screens should be removed and cleaned separately.

Do not apply this product with mist blower systems that deliver very fine spray droplets. Use of mist blower equipment can reduce control achieved with the herbicide and increase spray drift potential.

Use Information

Apply the specified rate of Milestone as a coarse low-pressure spray. Do not apply this product with mist blower systems that deliver very fine spray droplets. Spray volume should be sufficient to uniformly cover foliage or intended application site. Increase the spray volume to ensure thorough and uniform coverage when target vegetation is tall and/or dense. To enhance foliage wetting and coverage, a non-ionic agricultural surfactant or other adjuvant may be added to the spray mixture as specified by the adjuvant label.

Milestone may be applied by ground or aerial application equipment on any registered use site specified on this label.

Ground Broadcast Application: Higher spray volumes (greater than 10 gallons per acre) generally provide better coverage and better control, particularly in dense and/or tall foliage.

Aerial Broadcast Application: Do not apply less than 2 gallons per acre total spray volume. Five gallons per acre or greater will generally provide better coverage and better control, particularly in dense and/or tall foliage.

High-Volume Foliar Application: High volume foliar treatments may be applied at rates equivalent to a maximum of 7 fl oz per acre per year. Use sufficient spray volume to thoroughly and uniformly wet foliage and stems.

For basal bark and cut stubble and all types of cut surface applications, see woody plant section.

Low-Volume Foliar Treatment

To control susceptible woody plants, use Milestone alone or in tank mixes with other herbicides in water. The spray concentration of Milestone tank mixes and total spray volume per acre should be adjusted according to the size and density of target woody plants and type of spray equipment used. With low-volume application, use sufficient spray volume to obtain uniform coverage of target plants including the surfaces of all foliage, stems, and root collars.

For best results, an adjuvant should be added to all spray mixtures. Match equipment and delivery rate of spray nozzles to height and density of woody plants. When treating tall, dense brush, a truck-mounted spray gun with spray tips that deliver up to 2 gallons per minute at 40 to 60 psi may be required. Backpack or other types of specialized spray equipment with spray tips that deliver less than 1 gallon of spray per minute may be appropriate for short, low to moderate density brush.

Spot Application: Spot treatments may be applied at an equivalent broadcast rate of up to 0.22 lb acid equivalent (14 fl oz of Milestone) per acre per year; however, not more than 50% of an acre may be treated at that rate. Do not apply more than a total of 0.11 lb acid equivalent (7 fl oz) per acre of Milestone per year as a result of broadcast, spot, or repeat applications. Spray volume should be sufficient to thoroughly and uniformly wet the weed foliage, but not to the point of runoff. Repeat treatments may be made, but the total amount of Milestone applied must not exceed 7 fl oz per acre per year. To prevent misapplication, spot treatments should be applied with a calibrated sprayer with a known volume per acre. Table 1 shows Milestone amount to mix for various sprayer outputs in gallons per acre (GPA).

Table 1: Amount of Milestone (in mL) to mix in 1 gallon of water

Gallons per acre	Milestone amount (in mL) to mix to achieve target application rates			Use a syringe to measure cc
	GPA	5 fl oz/a	7 fl oz/a	14 fl oz/a
20	7.5	10.5	21.0	
30	5.0	7.0	14.0	
40	3.8	5.3	10.5	
50	3.0	4.2	8.4	
60	2.5	3.5	7.0	
70	2.1	3.0	6.0	
80	1.9	2.6	5.3	
90	1.7	2.3	4.7	
100	1.5	2.1	4.2	

Note: Table 1 above shows mixes for various sprayer outputs in gallons per acre (GPA).

Conversions:

1 tsp = 5 mL 30 ml = 1 fluid ounce 1 cc = 1 mL
 3 tsp = 1 Tbsp 2 Tbsp = 1 fluid ounce

Mixing Instructions

Mixing with Water: To prepare the spray, add about half the required amount of water in the spray tank. Then, with agitation, add the specified amount of Milestone and other herbicides (if tank mixing). Finally, with continued agitation, add the rest of the water and additives such as adjuvants, surfactants, or drift control and deposition aids.

Addition of Surfactants or Adjuvants on All Labeled Use Sites: The addition of a high quality non-ionic surfactant (of at least 80% active principal) or adjuvant at 0.25 to 0.5% volume per volume (1 to 2 quarts per 100 gallons of spray) is recommended to enhance herbicide activity under adverse environmental conditions (such as, high temperature, low relative humidity, drought conditions, dusty plant surfaces) or when weeds are heavily pubescent or more mature.

Tank Mixing with Other Herbicides: Milestone may be applied in tank mix combination with labeled rates of other herbicides provided: (1) the tank mix product is labeled for the timing and method of application for the use site to be treated, (2) mixing is not prohibited by the label of the tank mix product(s), and (3) that the tank mix combination is physically compatible (see tank mix compatibility testing below). When tank mixing, use only in accordance with the restrictions, precautions, and limitations on the respective product labels.

- It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.
- Do not exceed specified application rates. If products containing the same active ingredient are mixed, do not exceed the maximum allowable active ingredient use rates.
- For direct injection or other spray equipment where the product formulations will be mixed in undiluted form, special care should be taken to ensure tank mix compatibility.
- Always perform a compatibility test (jar test) to ensure the compatibility of products to be used in tank mixture.

Tank Mix Compatibility Testing: Perform a jar test prior to mixing in a spray tank to ensure compatibility of Milestone and other pesticides or carriers. Use a clear glass jar with lid and mix ingredients in the same order and proportions as will be used in the spray tank. The mixture is compatible if the materials mix readily when the jar is inverted several times. The mixture should remain stable after standing for 30 minutes or, if separation occurs, should readily remix if agitated. An incompatible mixture is indicated by separation into distinct layers that do not readily remix when agitated, and/or the presence of flakes, precipitates, gels, or heavy oily film in the jar. Use of an appropriate compatibility aid may resolve mix incompatibility. If the mixture is incompatible do not use that tank mix partner in tank mixtures.

Invert Emulsion Spray Mixtures

Milestone can be applied in an invert emulsion using oil and an appropriate inverting agent. Follow label directions of the inverting agent.

Mixing with Sprayable Liquid Fertilizer Solutions: Milestone is usually compatible with liquid fertilizer solutions. It is anticipated that Milestone will not require a compatibility agent for mixing with fertilizers; however, a compatibility test (jar test) should be made prior to mixing. Jar tests are particularly important when a new batch of fertilizer or pesticide is used, when water sources change, or when tank mixture ingredients or concentrations are changed. Compatibility may be determined by mixing the spray components in the desired order and proportions in a clear glass jar before large scale mixing of spray components in the spray tank.

Note: The lower the temperature of the liquid fertilizer, the greater the likelihood of mixing problems. Use of a compatibility aid may be required if Milestone is mixed with a 2,4-D-containing product and liquid fertilizer. **Mixing Milestone and 2,4-D in N-P or N-P-K liquid fertilizer solutions is more difficult than mixing with straight nitrogen fertilizer and should not be attempted without first conducting a successful compatibility jar test.** Agitation in the spray tank must be vigorous to be comparable with jar test agitation. Apply the spray mixture the same day it is prepared while maintaining continuous agitation. Rinse the spray tank thoroughly after use.

Note: Foliar-applied liquid fertilizers themselves can cause yellowing of the foliage of forage grasses and other vegetation.

Use Rates and Timing

Milestone may be applied as a broadcast spray by ground or aerial equipment or as a spot application to control weeds including, but not limited to, those listed on this label. When a rate range is given, use the higher rate to control weeds at advanced growth stages or when under less-than-favorable growing conditions. For optimum uptake and translocation of Milestone, avoid mowing, haying, shredding, burning, or soil disturbance in treated areas for at least 14 days following application.

Milestone provides post emergence control and preemergence control of emerging seedlings of susceptible weeds and re-growth of certain perennial weeds following application. Preventing establishment of weeds will depend upon application rate, season of application, and environmental conditions after application.

Milestone can provide long-term control of susceptible weeds. The length of control is dependent upon the application rate, condition and growth stage of target weeds, environmental conditions at and following application, and the density and vigor of competing desirable vegetation. Long-term weed control is most effective where grass vegetation is allowed to recover from overgrazing, drought, etc., and compete with weeds.

Milestone can be an important component of integrated vegetation management programs designed to renovate or restore desired plant communities. To maximize and extend the benefits of weed control provided by Milestone, it is important that other vegetation management practices, including proper grazing management, biological control agents, replanting, fertilization, prescribed fire, etc., be used in appropriate sequences and combinations to further alleviate the adverse effects of weeds on desirable plant species and to promote development of desired plant communities. Agricultural and natural resources specialists with federal and state government agencies can provide guidance on best management practices and development of integrated vegetation management programs.

Plants Controlled

The following weeds and woody plants will be controlled with the rates of Milestone indicated below in Table 2. For best results, most weeds and woody plants should be treated when they are actively growing and under conditions favorable for growth. Use a higher rate in the rate range when growing conditions are less than favorable or when weed foliage is tall and dense, or when optimal longer term residual control is desired. Milestone also provides preemergence control of germinating seeds or seedlings of susceptible weeds following application.

Table 2: Weeds and Woody Plants Controlled

Note: Numbers in parentheses (-) refer to specific use directions for a particular weed species.

Common Name	Scientific Name	Rate Range (fl oz/acre)	Life Cycle	Plant Family
amaranth, spiny	<i>Amaranthus spinosus</i>	4 to 7	annual	Amaranthaceae
bedstraw	<i>Galium spp.</i>	4 to 7	perennial	Rubiaceae
beggarticks	<i>Bidens spp.</i>	4 to 7	annual	Asteraceae
broomweed, annual	<i>Amphichayris dracunculoides</i>	4 to 7	annual	Asteraceae
burdock, common	<i>Arctium minus</i>	4 to 7	biennial	Asteraceae
buttercup, hairy	<i>Ranunculus sardous</i>	4 to 7	annual	Ranunculaceae
buttercup, tall	<i>Ranunculus acris</i>	4 to 7	perennial	Ranunculaceae
buttercup spp	<i>Ranunculus spp</i>	4 to 7	various	Ranunculaceae

Table 2: Weeds and Woody Plants Controlled (Cont.)**Note:** Numbers in parentheses (-) refer to specific use directions for a particular weeds species.

Common Name	Scientific Name	Rate Range (fl oz/acre)	Life Cycle	Plant Family
camelthorn	<i>Alhagi pseudalhagi</i>	5 to 7	perennial	Fabaceae
cat's ear, common	<i>Hypochaeris radicata</i>	5 to 7	perennial	Asteraceae
cat's ear	<i>Hypochaeris spp</i>	5 to 7	perennial	Asteraceae
chamomile, scentless	<i>Matricaria inodora</i>	4 to 7	annual	Asteraceae
chicory	<i>Cichorium intybus</i>	4 to 6	perennial	Asteraceae
chickweed	<i>Stellaria media</i>	7	annual	Caryophyllaceae
cinquefoil, sulfur (1)	<i>Potentilla recta</i>	4 to 7	perennial	Rosaceae
cocklebur	<i>Xanthium strumarium</i>	3 to 5	annual	Asteraceae
clover	<i>Trifolium spp.</i>	5 to 7	perennial	Fabaceae
crazyweed	<i>Oxytropis</i>	5 to 7	perennial	Fabaceae
croton, tropic	<i>Croton glandulosus</i>	3 to 5	annual	Euphorbiaceae
crownvetch	<i>Securigera varia</i>	5 to 7	perennial	Fabaceae
cudweed, purple	<i>Gamochaeta purpurea</i>	4 to 7	annual	Asteraceae
daisy, oxeye (1)	<i>Leucanthemum vulgare</i>	4 to 7	perennial	Asteraceae
dock, curly	<i>Rumex crispus</i>	4 to 7	perennial	Polygonaceae
evening primrose, cutleaf	<i>Oenothera laciniata</i>	4 to 7	annual	Onagraceae
fiddleneck	<i>Amsinckia spp</i>	4 to 7	annual	Boraginaceae
fireweed	<i>Epilobium angustifolium</i>	5 to 7	perennial	Onagraceae
fleabane, flax-leaf	<i>Conyza bonariensis</i>	4 to 7	annual	Asteraceae
fleabane, hairy	<i>Conyza bonariensis</i>	5 to 7	annual/biennial	Asteraceae
hawkweed, orange (2)	<i>Hieracium aurantiacum</i>	4 to 7	perennial	Asteraceae
hawkweed, yellow (2)	<i>Hieracium caespitosum</i>	4 to 7	perennial	Asteraceae
henbane, black	<i>Hyoscyamus niger</i>	5 to 7	annual/biennial	Solanaceae
henbit	<i>Lamium amplexicaule</i>	5 to 7	annual/ biennial	Lamiaceae
hogweed, giant	<i>Heracleum mantegazzianum</i>	7	perennial	Apiaceae
horsenettle, Carolina	<i>Solanum carolinense</i>	4 to 7	perennial	Solanaceae
horseweed (marestail)	<i>Conyza canadensis</i>	4 to 7	annual	Asteraceae
ironweed, tall	<i>Vernonia gigantea</i>	5 to 7	perennial	Asteraceae
ironweed, western	<i>Vernonia baldwinii</i>	7	perennial	Asteraceae
knapweed, diffuse (3)	<i>Centaurea diffusa</i>	5 to 7	biennial/ perennial	Asteraceae
knapweed, meadow	<i>Centaurea debeauxii</i>	5 to 7	perennial	Asteraceae
knapweed, Russian (4)	<i>Acroptilon repens</i>	5 to 7	perennial	Asteraceae
knapweed, spotted (3)	<i>Centaurea stoebe</i>	5 to 7	biennial/ perennial	Asteraceae
knapweed, squarrose	<i>Centaurea virgata</i>	5 to 7	biennial/ perennial	Asteraceae
knapweeds	<i>Centaurea spp.</i>	5 to 7	biennial/ perennial	Asteraceae
knotweeds, Japanese, bohemian (11)	<i>Reynoutria japonica</i>	7 to 14	perennial	Polygonaceae
kudzu	<i>Pueraria montana</i>	7	perennial	Fabaceae
lady's thumb	<i>Polygonum persicaria</i>	3 to 5	annual	Polygonaceae
lambsquarters	<i>Chenopodium album</i>	5 to 7	annual	Chenopodiaceae
lespedeza, annual	<i>Lespedeza striata</i>	5 to 7	annual	Fabaceae
licorice, wild	<i>Glycyrrhiza lepidota</i>	7	perennial	Fabaceae
locoweed	<i>Astragalus spp.</i>	5 to 7	perennial	Fabaceae
locust, black	<i>Robinia pseudoacacia</i>	7	woody perennial	Fabaceae
locust, honey	<i>Gleditsia triacanthos</i>	7	woody perennial	Fabaceae
loosestrife, purple (12)	<i>Lythrum salicaria</i>	7 to 14	perennial	Lythraceae
mayweed, scentless	<i>Tripleurospermum perforate</i>	4 to 7	annual	Asteraceae
mayweed, stinking	<i>Anthemis cotula</i>	7	annual	Asteraceae
medic, black	<i>Medicago lupulina</i>	4 to 7	perennial	Fabaceae
mimosa	<i>Albizia julibrissin</i>	7	woody perennial	Fabaceae
mullein (5)	<i>Verbascum spp.</i>	7	biennial	Scrophulariaceae
nightshade, silverleaf	<i>Solanum elaeagnifolium</i>	4 to 7	perennial	Solanaceae
oxtongue, bristly	<i>Picris echioides</i>	5 to 7	biennial	Asteraceae
pea, Swainson	<i>Sphaerophysa salsula</i>	5 to 7	perennial	Fabaceae

Table 2: Weeds and Woody Plants Controlled (Cont.)**Note:** Numbers in parentheses (-) refer to specific use directions for a particular weeds species.

Common Name	Scientific Name	Rate Range (fl oz/acre)	Life Cycle	Plant Family
povertyweed	<i>Iva axillaris</i>	5 to 7	perennial	Asteraceae
ragweed, common	<i>Ambrosia artemisiifolia</i>	3 to 5	annual	Asteraceae
ragweed, western	<i>Ambrosia psilostachya</i>	4 to 7	perennial	Asteraceae
ragweed, giant	<i>Ambrosia trifida</i>	4 to 7	annual	Asteraceae
ragwort, tansy	<i>Senecio jacobaea</i>	5 to 7	perennial	Asteraceae
redbud	<i>Cercis Canadensis</i>	7	woody perennial	Fabaceae
rush skeletonweed	<i>Chondrilla juncea</i>	5 to 7	perennial	Asteraceae
sicklepod	<i>Cassia obtusifolia</i>	7	perennial	Fabaceae
smartweed, Pennsylvania	<i>Polygonum pennsylvanicum</i>	3 to 5	annual	Polygonaceae
sneezeweed, bitter	<i>Helenium amarum</i>	4 to 7	annual	Asteraceae
soda apple, tropical (6)	<i>Solanum viarum</i>	5 to 7	perennial	Solanaceae
sowthistle, annual	<i>Sonchus oleraceae</i>	7	annual	Asteraceae
sowthistle, perennial	<i>Sonchus arvensis</i>	3 to 5	perennial	Asteraceae
spanishneedles	<i>Bidens bipinnata</i>	4 to 7	annual	Asteraceae
St. Johnswort, common	<i>Hypericum perforatum</i>	5 to 7	perennial	Clusiaceae
stiltgrass, Japanese	<i>Microstegium vimineum</i>	5 to 7	annual	Poaceae
starthistle, Malta (7)	<i>Centaurea melitensis</i>	3 to 5	annual	Asteraceae
starthistle, purple (7)	<i>Centaurea calcitrapa</i>	3 to 5	biennial	Asteraceae
starthistle, yellow (7)	<i>Centaurea solstitialis</i>	3 to 5	annual	Asteraceae
sunflower, common	<i>Helianthus annuus</i>	4 to 7	annual	Asteraceae
sweetclover, white	<i>Melilotus albus</i>	5 to 7	biennial	Fabaceae
sweetclover, yellow	<i>Melilotus officinalis</i>	5 to 7	biennial	Fabaceae
teasel	<i>Dipsacus spp.</i>	4 to 7	biennial	Dipsacaceae
thistle, artichoke	<i>Cynara cardunculus</i>	5 to 7	perennial	Asteracea
thistle, blessed milk	<i>Silybum marianum</i>	4 to 7	biennial	Asteraceae
thistle, bull (8)	<i>Cirsium vulgare</i>	3 to 5	biennial	Asteraceae
thistle, Canada (9)	<i>Cirsium arvense</i>	5 to 7	perennial	Asteraceae
thistle, woolly distaff	<i>Carthamus lanatus</i>	4 to 7	annual	Asteraceae
thistle, Italian	<i>Carduus pycnocephalus</i>	7	annual	Asteraceae
thistle, musk (8)	<i>Carduus nutans</i>	3 to 5	biennial	Asteraceae
thistle, plumeless (8)	<i>Carduus acanthoides</i>	3 to 5	biennial	Asteraceae
thistle, Scotch	<i>Onopordum acanthium</i>	5 to 7	biennial	Asteracea
thistle, Russian (preemergence)	<i>Salsola spp</i>	7	annual	Chenopodiaceae
tree of heaven	<i>Ailanthus altissima</i>	7	perennial	Simaroubaceae
vetch	<i>Vicia spp.</i>	3 to 7	perennial	Fabaceae
willoweed, panicle	<i>Epilobium brachycarpum</i>	5 to 7	annual	Onagraceae
wisteria	<i>Wisteria brachybotris</i>	7	woody perennial	Fabaceae
wormwood, absinth(10)	<i>Artemisia absinthium</i>	6 to 7	perennial	Asteraceae
yarrow, common	<i>Achillea millefolium</i>	7	perennial	Asteraceae

- (1) **Sulfur cinquefoil or oxeye daisy:** Apply Milestone at 4 to 6 fl oz per acre to plants in the pre-bud stage of development.
- (2) **Orange or yellow hawkweeds:** Apply Milestone at 4 to 7 fl oz per acre to plants in the bolting stage of development.
- (3) **Diffuse, spotted, and squarrose knapweeds:** Apply Milestone at 5 to 7 fl oz per acre when plants are actively growing with the optimum time of application occurring from rosette to the bolting stages of development or in the fall. Plants will be controlled by mid-summer and fall applications even though plants may not show any changes in form or stature the year of application.
- (4) **Russian knapweed:** Apply Milestone at 5 to 7 fl oz per acre to plants in the spring and summer at early bud to flowering stages and to dormant plants in the fall.
- (5) **Mullein:** Apply to the rosette stage
- (6) **Tropical soda apple:** Apply Milestone at 5 to 7 fl oz per acre at any growth stage, but application by flowering will reduce seed production potential.
- (7) **Malta, purple, and yellow starthistle:** Apply Milestone at 3 to 5 fl oz per acre to plants at the rosette through bolting growth stages.
- (8) **Bull, musk, and plumeless thistles:** Apply Milestone at 3 to 5 fl oz per acre in the spring and early summer to rosette or bolting plants or in the fall to seedlings and rosettes. Apply at 4 to 5 fl oz when plants are at the late bolt through early flowering growth stages. 2,4-D at 1 lb ae per acre should be tank-mixed with Milestone starting at the late bud stages
- (9) **Canada thistle:** Apply Milestone at 5 to 7 fl oz per acre in the spring after all plants have fully emerged (some may be budding) until the oldest plants are in full flower stage. Use the higher rate when applying to the flower stage. Applications are also effective in the fall before a killing frost. Use higher rates for older/dense stands or for longer residual control.

- (10) **Absinth wormwood:** Apply 6 to 7 fl oz per acre before wormwood is 12 inches tall. When applying by air on CRP, coverage is important and a minimum of 3 GPA is specified. Remove old duff and litter by fire or mowing for best results
- (11) **Invasive knotweeds:** Japanese, Bohemian, giant knotweeds: Optimum suppression of invasive knotweeds with Milestone herbicide is obtained when applications are made to plants that are at least 3 to 4 feet tall. Results of field trials conducted in the western U.S. indicate that high volume applications (100 gpa or greater) of Milestone at 7 fl oz per acre or a spot treatment rate up to 14 fl oz per acre applied in summer will provide good control of invasive knotweeds. In the upper Midwest, mowing in summer followed by fall application of Milestone (prior to frost) provided the best control. Infestations of invasive knotweed that are mowed should be allowed to regrow to at least 3 feet in height prior to herbicide treatment. Monitoring and follow-up herbicide treatments on regrowth will be necessary to control resprouts and achieve long-term control.
- (12) **Purple loosestrife:** For optimum control apply Milestone at 7 fl oz per acre plus 1 pint to 1 quart of 2,4-D amine or 1 to 2 quarts of Garlon 3A. Spot treatments may also be made by applying Milestone at 14 fl oz (see Spot treatment section of the label) with or without the addition of 2,4-D or Garlon 3A.
- (13) **Fiddleneck:** For optimum control apply Milestone at 4 to 7 fl oz per acre when the plants are young and before flowering. Use higher rates if the plants are older and larger. In California optimal application timing is November through March.

For Control or Suppression of Medusahead Rye

Milestone applied broadcast at 7 to 14 fl oz per acre can suppress or control medusahead rye (*Taeniatherum caput-medusae*) and downy brome (*Bromus tectorum*, also called cheatgrass). The key to optimum results is the timing of application. Applications should be made in late summer prior to rains and seed germination in order to provide the best possibility of suppression or control. In general, control or suppression will be poor if any of the seeds have germinated prior to application even if they have not yet emerged through the soil surface. Tank mixes with Accord XRT II at 12 fl oz per acre, where a non-selective herbicide can be used or where desired grasses are dormant and will not be harmed, will aid in control. Spot treatment restrictions (see spot treatment section) apply for rates above 7 fl oz per acre for broadcast applications.

Control of Terrestrial Weeds Near and Up to the Water's Edge

Milestone can be used to treat terrestrial weeds that extend up to the water's edge. **Do not apply directly to water.** This product must not be used to treat vegetation standing in the water. When controlling terrestrial weed species near and up to the water's edge, take precautions to minimize incidental overspray to the adjacent water. Consult local public water control authorities before applying this product near public waters. Permits may be required to treat such areas. Apply the specified rate (listed in Table 2) of Milestone as a coarse low-pressure spray as ground broadcast or spot applications. Do not apply aerially for control of weeds growing at or near the water's edge. Spray volume should be sufficient to uniformly cover foliage. Increase the spray volume to ensure thorough and uniform coverage when target vegetation is tall and/or dense. It is also permissible to treat target weeds within dry non-irrigation ditches and seasonally dry transitional areas between upland and lowland sites (such as flood plains, deltas, marshes, prairie potholes, or vernal pools) but only at times when those sites are dry and are forecasted or managed by water control systems to remain dry for at least 2 weeks following application.

Use Rate Restrictions:

Do not broadcast apply more than 7 fl oz per acre of Milestone per year.

The total amount of Milestone applied broadcast, as a re-treatment, and/or spot treatment cannot exceed 7 fl oz per acre per year. Spot treatments may be applied at an equivalent broadcast rate of up to 0.22 lb acid equivalent (14 fl oz of Milestone) per acre per year; however, not more than 50% of an acre may be treated at that rate. Do not apply more than a total of 0.11 lb acid equivalent (7 fl oz) per acre of Milestone per year as a result of broadcast, spot, or repeat applications.

Woody Plant Control

Milestone may be applied to control woody plants by any application method listed on the label on any site listed.

Milestone may be applied alone or in tank-mix combinations with labeled rates of other herbicides provided: (1) the tank mix product is labeled for the timing and method of application for the use site to be treated, and (2) mixing is not prohibited by the label of the registered tank mixed products. Use as directed in the Directions For Use section of the tank-mix partner. Follow Mixing Instructions.

Add Milestone to tank mixes for improved brush control on species such as alder, aspen, blackberry, boxelder, cherry, coyote brush, conifers, cottonwood, elm, maple, poplar, oak, brooms (Scotch, Spanish, French, Portuguese), gorse, hackberry, Russian and Autumn olive, salt-cedar.

Low or High Volume Foliar Applications:

For broad spectrum brush control using a foliar application, Milestone may be added to tank mixes with the following products or other products labeled for use on the intended site:

Tank Mix Product	EPA Reg. No.	Active Ingredient(s)
Accord XRT II	62719-556	Glycine, N-(phosphonomethyl)-, compd. with N-methylmethanamine (1:1)
Arsenal Powerline Herbicide	241-431	Imazapyr, isopropylamine salt
DMA 4 Herbicide	62719-3	2,4-D, dimethylamine salt
Garlon 4 Ultra	62719-527	Triclopyr, butoxyethyl ester
Remedy Ultra	62719-552	Triclopyr, butoxyethyl ester
Tordon 101 Mixture	62719-5	2,4-D triisopropanolamine salt; Picloram triisopropanolamine salt
Tordon 22K	62719-6	Picloram-potassium
Tordon K	62719-17	Picloram-potassium
Transline	62719-259	Clopyralid, monoethanolamine salt
Garlon XRT	62719-553	Triclopyr, butoxyethyl ester
Garlon 3A	62719-37	Triclopyr, triethylamine salt
Rodeo	62719-324	Glyphosate; Glyphosate-isopropylammonium

Low Volume Basal Bark Applications:

To control susceptible woody plants with stems less than 6 inches in basal diameter, apply herbicide mix (see below for rates) with a backpack or knapsack sprayer using low pressure and a solid cone or flat fan nozzle. Spray the basal parts of brush and tree trunks to a height of 12 to 15 inches from the ground in a manner that thoroughly wets the lower stems but not to the point of runoff. The use of a Spraying Systems Y2 nozzle or similar nozzle is recommended, which will narrow the spray pattern to target individual stems. Herbicide concentration should vary with tree diameter, bark thickness, volume used per acre, and susceptibility of species treated. Apply anytime, including the winter months, except when snow or water prevent spraying to the ground line or when stem surfaces are saturated with water.

Milestone may be used as a low volume basal treatment alone, for sensitive woody species in the Fabaceae family (legumes), or in combination with other products such as Garlon 4 Ultra, Garlon XRT, or Remedy Ultra for broader control of other sensitive woody species. Applications should not exceed the maximum use rate per acre for the site.

Mix Milestone at 0.5 to 5% v/v alone or with Garlon 4 Ultra or Garlon XRT in a commercially available basal diluent (or other oils or basal diluents as recommended by the manufacturer). The basal oil should be compatible with a water soluble herbicides such as Milestone. See Table 3 to calculate the amount of Milestone that can be applied per acre at the various volumes and rates. Make a stable tank mixture for basal bark application by first combining each product with a compatibility agent prior to final mixing in the desired ratio. If using a tank mix, mix the oil-based products such as Garlon 4 Ultra thoroughly with basal oil and add any other oil-based products before adding the water-based products. If the mixture stands for more than 30 minutes, reagitation may be required.

Oil and water based mixtures can separate over time. Long-term storage is not recommended without vigorous agitation prior to use or without a recommended compatibility agent.

Use caution when treating areas adjacent to susceptible and desirable species to avoid root uptake and possible injury when using Milestone or other soil active herbicides

Low Volume Stem Bark Band Treatment

To control susceptible woody plants (see Table 2) with stems less than 6 inches in basal diameter, mix 0.5 to 5 gallons of Milestone in enough oil to make 100 gallons of spray mixture. Apply with a backpack or knapsack sprayer using low pressure and a solid cone or flat fan nozzle.

Apply the spray in a 6-inch to 10-inch wide band that completely encircles the stem. Spray in a manner that completely wets the bark, but not to the point of runoff. The treatment band may be positioned at any height up to the first major branch. For best results apply the band as low as possible. Spray mixture concentration should vary with size and susceptibility of species to be treated. Applications may be made anytime, including winter months.

Table 3:

% of Milestone in Basal Mix	Fluid ounces of Milestone by GPA (gallons per acre)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.0	1.3	2.6	3.8	5.1	6.4	7.7	9.0
1.5	1.9	3.8	5.8	7.7	9.6	11.5	13.4
2.0	2.6	5.1	7.7	10.2	12.8		
2.5	3.2	6.4	9.6	12.8			
3.0	3.8	7.7	11.5				
3.5	4.5	9.0	13.4				
4.0	5.1	10.2					
5.0	6.4	12.8					

	within spot treatment labeled rate
	in excess of spot treatment labeled rate

NOTE: Avoid treating high density of stems adjacent to desirable trees with roots in the treatment zone. See Table 4 for guidance on estimated volume per acre by treated stem density. Trees adjacent to or in a treated area can occasionally be affected by root uptake of Milestone. Applications of Milestone within the root zone of desirable trees should not be made unless injury can be tolerated. Severe injury or plant death can occur if used near roses or leguminous trees such as locusts, redbud, mimosa, and caragana.

Table 4:

Estimated gallons of spray solution per acre for basal bark applications on various stem densities per acre		
	Volume Range (gallons per acre)	Target Spacing (feet between brush/trees)
Number of Stems per Acre		
250	1.0 to 1.7	8.4
500	2.0 to 3.3	5.9
750	3.0 to 5.0	4.9
1000	4.0 to 6.6	4.2
1250	5.0 to 8.3	3.8
1500	5.9 to 9.9	3.4

Cut surface

Apply Milestone in the cut surface applications listed below for control of susceptible tree species such as legumes like albizia, mimosa, locust, etc. Mixtures of Milestone and Garlon 3A or Garlon 4 Ultra may be effective on species other than legumes such as elm, maple, oak and conifers.

Cut surface applications may be used successfully at any season except during periods of heavy sap flow of certain species - for example, maples in the spring.

Cut-Stump Treatment

Apply Milestone as a 10% dilution v/v in water, by spraying or painting all the exposed cambium layer on the freshly cut surface. The cambium area next to the bark is the most vital area to wet.

With Tree Injector Method

Apply by injecting 1 milliliter of 10% v/v Milestone in water through the bark at intervals of 3 to 4 inches between centers of the injector wound. The injections should completely surround the tree at any convenient height. Note: No Worker Protection Standard worker entry restrictions or worker notification requirements apply when this product is injected directly into plants.

With Hack and Squirt Method

Make cuts around the tree trunk at a convenient height with a hatchet or similar equipment so that the cuts overlap slightly and make a continuous circle around the trunk. Spray 1 milliliter of 10% v/v Milestone in water into the pocket created between the bark and the inner stem/trunk by each cut.

With Frill or Girdle Method

Make a single girdle through the bark completely around the tree at a convenient height. The frill should allow for the herbicide to remain next to the inner stem and absorb into the plant. Wet the cut surface with 10% v/v Milestone in water.

For use in Hawaii only:

Incision Point Application (IPA) also known as Tree Injection or Hack and Squirt

For control of susceptible tree species such as albizia and other legumes and susceptible tree species, make cuts around the tree trunk at a convenient height with a machete, hatchet, or similar equipment so that the cuts are about 6 inches apart between centers. Inject 0.5 to 1 milliliter of undiluted Milestone into the pocket created between the bark and the inner stem/trunk by each cut as soon as possible after cutting. The cambium area next to the bark is the most vital area to wet.

Preemergent Weed Control

Typically Milestone is used as a post emergent herbicide but it has preemergent activity on susceptible weeds. Use Milestone as a preemergence spray prior to weed seed germination. Control will depend upon species susceptibility, application timing, and environmental conditions such as precipitation following application. When applied at rates lower than 7 fl oz per acre, Milestone can provide short-term control of some susceptible weeds, but when applied at 7 fl oz (broadcast) or 14 fl oz (spot treatment), weed control is extended.

Best results for use as a preemergent application for total vegetation control are obtained if Milestone at 7 fl oz per acre is tank mixed with other herbicides to broaden the weed spectrum and to control grasses. If grasses and broadleaf weeds tolerant to Milestone are present at the time of application or will germinate on the site, then tank mixtures with other herbicides such as the products listed below, or flumioxazin, diuron, or other herbicides labeled for total vegetation control applications.

Tank Mix Product	EPA Reg. No.	Active Ingredient(s)
Accord XRT II	62719-556	Glycine, N-(phosphonomethyl)-, compd. with N-methylmethanamine (1:1)
Rodeo	62719-324	Glyphosate; Glyphosate-isopropylammonium
Dimension 2EW	62719-542	Dithiopyr
Dimension EC	62719-426	Dithiopyr
Oust X Herbicide	432-1552	Sulfometuron
Esplanade 200 SC	432-1516	Indaziflam

SPOT TREATMENTS FOR AREAS SUCH AS SUBJECT POLES, SUBSTATIONS, AND OTHER SMALL AREAS

Spot treatments may be applied at an equivalent broadcast rate of up to 0.22 lb acid equivalent (14 fl oz of Milestone) per acre per year to small spots for clearing around utility subject poles to help prevent fire damage, on small substations, and other spot areas. To prevent misapplication, spot treatments should be applied with a calibrated sprayer.

Supplemental Labeling

For Distribution and Use Only in the following states: AL, AR, AZ, CO, FL, GA, ID, KS, KY, LA, MO, MS, MT, ND, NE, NM, NV, OK, SD, TN, TX, UT, WY

For Use on Grass Harvested for Hay Intended for Distribution or Sale Off the Farm or Ranch

For Use On Grass Harvested for Silage, Haylage, Baleage, or Green Chop Intended for Use On the Farm or Ranch

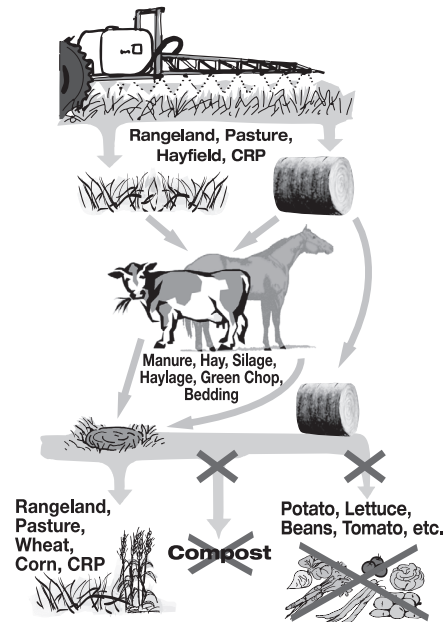
Use Precautions and Restrictions

Consult with a Corteva Agriscience representative if you do not understand the Use Precautions and Restrictions. Call 800-258-3033 for more information.

IMPORTANT USE PRECAUTIONS AND RESTRICTIONS TO PREVENT INJURY TO DESIRABLE PLANTS

- It is mandatory to follow the **Use Precautions and Restrictions** section of this product label.
- Manure and urine from animals consuming treated grass or forage may contain enough aminopyralid to cause injury to sensitive broadleaf plants.
- The Applicator must provide the land manager with a copy of the Corteva Agriscience Stewardship instructions regarding uses of forage from areas treated with aminopyralid.

Forage and Manure Management



- **Do not use grasses treated with Milestone in the preceding 18 months for hay intended for export outside the United States.**
- **Do not use hay or straw from areas treated with Milestone within the preceding 18 months, or manure from animals feeding on hay treated with Milestone, in compost.**
- **Do not use grasses treated within the preceding 18 months for seed production.**
- **Milestone is highly active against many broadleaf plant species.** Do not use this product on areas where loss of desirable broadleaf forage plants, including legumes, cannot be tolerated.
- **Seeding Legumes:** Do not plant forage legumes until a soil bioassay has been conducted to determine if aminopyralid or metsulfuron concentration remaining in the soil will adversely affect the legume establishment.
- **Grazing and Haying Restrictions:** There are no restrictions on grazing or grass hay harvest following application of Milestone at labeled rates. Cutting hay too soon after spraying weeds will reduce weed control. Wait 14 days after herbicide application to cut grass hay to allow herbicide to work. Do not transfer grazing animals from areas treated with Milestone to areas where sensitive broadleaf crops occur without first allowing 3 days of grazing on an untreated pasture. Otherwise, urine and manure may contain enough aminopyralid to cause injury to sensitive broadleaf plants.
- **Grazing Poisonous Plants:** Herbicide application may increase palatability of certain poisonous plants. Do not graze treated areas until poisonous plants are dry and no longer palatable to livestock.
- **Transfer of Animals Feeding on Milestone-Treated Forage:** Do not transfer animals grazing or feeding on hay from areas treated with Milestone to areas where sensitive broadleaf crop occur without first allowing 3 days of grazing on an untreated pasture. Otherwise, urine and manure may contain enough aminopyralid to cause injury to sensitive broadleaf plants.
- **Restrictions in Hay or Manure Use:**
 - Do not use treated plant residues, including hay or straw from areas treated within the preceding 18 months in compost, mulch or mushroom spawn.
 - Do not use manure from animals that have grazed forage or eaten hay harvested from treated areas within the previous 3 days in compost, mulch, or mushroom spawn.
 - Do not spread manure from animals that have grazed or consumed forage or hay from treated areas within the previous 3 days on land used for growing broadleaf crops.
- Manure from animals that have grazed forage or eaten hay harvested from aminopyralid-treated areas within the previous 3 days may only be used on pasture grasses, grass grown for seed, and wheat.
- Do not plant a broadleaf crop in fields treated in the previous year with manure from animals that have grazed forage or eaten hay harvested from aminopyralid-treated areas until an adequately sensitive field bioassay is conducted to determine that the aminopyralid residues in the soil is at level that is not injurious to the crop to be planted.
- To promote herbicide decomposition, plant residues should be evenly incorporated in the surface soil or burned. Breakdown of aminopyralid in plant residues or manure is more rapid under warm, moist soil conditions and may be accelerated by supplemental irrigation.
- **Crop Rotation:** Do not rotate to cropland for one year following an application of Milestone. Do not plant a broadleaf crop until an adequately sensitive field bioassay shows that the level of aminopyralid present in the soil will not adversely affect that broadleaf crop.
- **Field Bioassay Instructions:** In fields previously treated with this product, plant short test rows of the intended rotational crop across the original direction of application in a manner to sample variability in field conditions such as soil texture, soil organic matter, soil pH, rainfall pattern, or drainage. The field bioassay can be initiated one year after the last application of aminopyralid in that field. Observe the test crop for symptoms of herbicidal activity, such as poor stand (effect on seed germination), chlorosis (yellowing), and necrosis (dead leaves or shoots), or stunting (reduced growth). If herbicidal symptoms do not occur, the test crop can be grown. If there is apparent herbicidal activity, do not plant the field to the intended rotational crop; plant only to wheat, forage grasses, native grasses, or grasses grown for hay.
- Trees adjacent to or in a treated area can occasionally be affected by root uptake of Milestone through movement into the soil. Do not apply Milestone within the root zone of desirable trees unless such injury can be tolerated. Use special caution near roses and leguminous trees such as locusts, redbud, mimosa, and caragana.

Supplemental Labeling

For Distribution and Use Only in the State of Washington

Rangeland, Permanent Grass Pastures, CRP Acres, Non-Cropland Areas, Non-Irrigation Ditch Banks, Natural Areas, and Grazed Areas In and Around These Sites

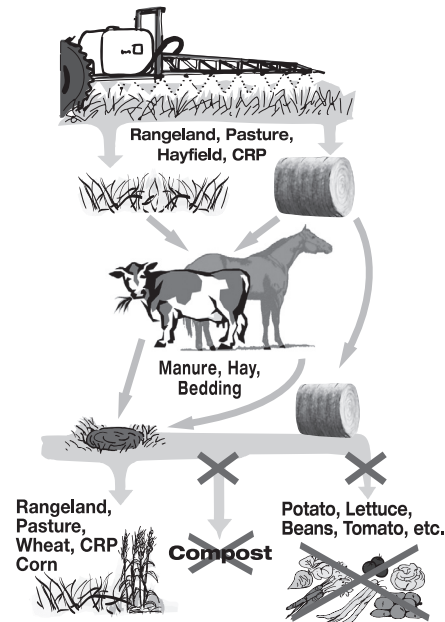
Use Precautions and Restrictions

Consult with a Corteva Agriscience representative if you do not understand the Use Precautions and Restrictions. Call 800-258-3033 for more information.

IMPORTANT USE PRECAUTIONS AND RESTRICTIONS TO PREVENT INJURY TO DESIRABLE PLANTS

- Carefully read the section **Restrictions in Hay or Manure Use**.
- It is mandatory to follow the **Use Precautions and Restrictions** section of this label.
- Manure and urine from animals consuming grass or hay treated with this product may contain enough aminopyralid to cause injury to sensitive broadleaf plants.
- Hay can only be used on the farm or ranch where product is applied unless allowed by supplemental labeling.

Forage and Manure Management



Pasture and Rangeland Restrictions

- Do not use grasses treated with Milestone in the preceding 18 months for hay intended for export outside the United States.
- Hay from areas treated with Milestone in the preceding 18 months CANNOT be distributed or made available for sale off the farm or ranch where harvested unless allowed by supplemental labeling.
- Hay from areas treated with Milestone in the preceding 18 months CANNOT be used for silage, haylage and baleage and green chop unless allowed by supplemental labeling.
- Do not move hay made from grass treated with Milestone within the preceding 18 months off farm unless allowed by supplemental labeling.
- Do not use hay or straw from areas treated with Milestone within the preceding 18 months or manure from animals feeding on hay treated with Milestone in compost.
- Do not use grasses treated with Milestone in the preceding 18 months for seed production.

Terms and Conditions of Use

If terms of the following Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. To the extent permitted by law, otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies.

Warranty Disclaimer

Corteva Agriscience warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. To the extent permitted by law, Corteva Agriscience MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Corteva Agriscience or the seller. To the extent permitted by law, all such risks shall be assumed by buyer.

Limitation of Remedies

To the extent permitted by law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Corteva Agriscience's election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used.

To the extent permitted by law, Corteva Agriscience shall not be liable for losses or damages resulting from handling or use of this product unless Corteva Agriscience is promptly notified of such loss or damage in writing. To the extent permitted by law, in no case shall Corteva Agriscience be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer, Inherent Risks of Use and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Corteva Agriscience or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

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Produced for
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Replaced Label: CD02-879-021
EPA accepted 06/02/2020

Revisions:

1. At end of booklet, added use/text from EPA-accepted supplemental labels for grass harvested for hay.
2. Related to change of company name and contact information for company 62719 accepted by EPA January 5, 2021:
 - o Legal entity updates.