ENVIRONMENTAL ASSESSMENT

PROPOSED FUNDING TO ERADICATE NOXIOUS WEEDS UTILIZING SELECT MANUAL AND MECHANICAL REMOVAL AND THE APPLICATION OF PRESCRIBED HERBICIDES

WALKER RIVER BASIN, NEVADA AND CALIFORNIA

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TABLE OF CONTENTS

1.0 PURPOSE AND NEED FOR ACTION 4

1.1 BACKGROUND AND INTRODUCTION 4
1.2 PROPOSED ACTION 4
1.3 PURPOSE AND NEED FOR THE PROPOSED ACTION 5
1.4 PROJECT LOCATION 7
1.5 DECISION TO BE MADE 7
1.6 PUBLIC INVOLVEMMENT 7

2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION 7

2.1 ALTERNATIVE A – NO ACTION 7
2.2 ALTERNATIVE B – PROPOSED ACTION 8
2.3 ALTERNATIVES CONSIDERED, BUT ELIMINATED FROM ANALYSIS 8

3.0 AFFECTED ENVIRONMENT 8

3.1 BIOLOGICAL ENVIRONMENT 8
3.2 PHYSICAL ENVIRONMENT 8
3.3 SOCIAL AND ECONOMIC ENVIRONMENT 9

4.0 ENVIRONMENTAL CONSEQUENCES 9

4.1 BIOLOGICAL ENVIRONMENT 10
4.2 PHYSICAL ENVIRONMENT 10
4.3 SOCIAL AND ECONOMIC ENVIRONMENT 11

5.0 CUMMULATIVE EFFECTS 12

6.0 COMPLIANCE, CONSULTATION, AND COORDINATION 13

6.1 AGENCIES AND PERSONS CONSULTED 13
6.2 PERTINENT LEGISLATION AND REGULATIONS ADDRESSED 14

7.0 REFERENCES 15

8.0 APPENDICES 16

APPENDIX A – TARGETED SPECIES 16
APPENDIX B - DIRECTIONS FOR HERBICIDE USE AND MSDS SHEETS 19

1.0 PURPOSE AND NEED FOR ACTION

1.1 BACKGROUND AND INTRODUCTION

Walker River headwaters are located in the Sierra Nevada Mountains and terminate at Walker Lake, a desert terminal lake approximately 160 miles away. Nearly all surface water within the Walker River Basin (Basin) is allocated for agriculture, the primary land use (Walker River Chronology, Nevada Division of Water Resources). Local communities graze cattle and sheep; and produce alfalfa, onions, garlic, silage corn, and grains with large portions of the agricultural production exported to California and other states.

Invasive and noxious weeds are a serious concern for landowners within the Basin. These weeds threaten the local economy, devastate wildlife habitat, clog waterways, reduce water quality/quantity, alter fire cycles and diminish agricultural production often thriving in gaps between land ownership and political boundaries. Therefore, the Walker River Basin Cooperative Weed Management Area (CWMA), a volunteer group of private landowners and local, state, and federal agencies encompassing the entire Basin within Nevada and California, was formed to coordinate weed management efforts between these gaps. The CWMA recognizes the importance of a watershed approach when managing noxious weeds (i.e. tall whitetop (*Lepidium latifolium*), hoary cress (*Cardaria draba*), tamarisk (*Tamarix spp.*) and other species, which reduce the overall health of the Basin vegetation. Noxious weed projects must begin at the headwaters and systematically continue downstream to the terminus.

A standardized inventory and treatment methodology for the entire basin is not currently in place; as a result, some areas and species are left untreated. For example, the Walker River Weed Control District (WRWCD) is responsible for treating whitetop, knapweed, Canada thistle, musk thistle, scotch thistle, yellow-star thistle and puncture vine on private and county lands within Mason and Smith Valleys. The WRWCD does not address all species identified by the State of Nevada Noxious Weed Law NRS 555 posing a threat to watershed health. Other CWMA partners regularly are unable to manage many locations throughout the Basin due to the remoteness and inaccessibility of these areas. For instance, a stretch of the East Walker River has steep canyon walls with multiple miles between access points, given the enormity of the Basin; these areas often receive no to low priority for inventory and treatment measures. Without addressing all weed species of concern and locations from a comprehensive systematic approach, noxious weeds would continue to threaten the ecology and economy of the Basin.

1.2 PROPOSED ACTION

The Fish and Wildlife Service (Service) proposes to provide funds and technical assistance to state and local agencies and Tribes to reduce, control, or eradicate noxious weeds, which have been introduced into the riparian and wetland habitats throughout the Walker River Basin (Appendix A). The Service would provide financial and technical

assistance for the manual and mechanical removal of noxious weeds along with herbicide application using integrated pest management approaches. The actions would be completed through cooperative agreements with State and local agencies and Tribes. The intent of the proposed project is to prevent the spread of invasive weeds in the Walker River Basin and to avert further degradation of agricultural fields, and native habitat. Funds provided to control noxious weeds may be used for eradication efforts on land owned by individuals (private land), counties, municipalities, States, tribes, Bureau of Land Management, and/or Forest Service. Permission to access and treat these lands must always be provided by the landowner or land manager, and requirements of the various land managers must always be followed.

Financial assistance would also be used to complete a comprehensive inventory of noxious weeds found within the Basin. It is critical to identify the specific noxious weeds infesting the Basin, exact location of the weeds, and to what extent the noxious weeds have spread in order to develop of an effective treatment and eradication project.

All herbicide usage in Nevada would be completed under the supervision of a Nevada state licensed pesticide applicator and in California supervision would come from the regulatory authority (Inyo/Mono Counties Agricultural Commissioner's Office). Individuals applying herbicides would receive training by the US Forest Service[1] and maintain a daily pesticide use log recording: date, location, active ingredient, EPA registration number, total amount of product or rate/acre, number of acres, restricted re-entry interval and weather conditions (start and finish temperatures and wind velocity). Herbicide mixing and application would be restricted to label regulations (i.e. temperature and wind conditions, precipitation forecast, and mixing locations) to minimize unintended consequences to native vegetation and surface water. Best management practices as stated on the specified herbicide labels would always be followed (Appendix B).

1.3 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose and need for the proposed action is to provide funds and technical assistance for Basin wide noxious weed removal. Proper noxious weed control and eradication techniques require beginning in the headwaters of the Basin, and methodically moving down stream identifying and mapping all noxious weeds and treating weeds with appropriate herbicide, manual, and mechanical techniques. All weed eradication efforts would require funding for future years of monitoring and continued eradication of noxious weed populations.

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[1] The Forest Service conducts a comprehensive training that includes weed identification, equipment maintenance, calibration, etc. over a two-week period. This would allow crews to work on Forest Service land and have a consistent methodology for herbicide application throughout the Basin. All seasonal crew members hired to inventory and treat the Nevada portion of the basin for this project would be trained by the Forest Service.

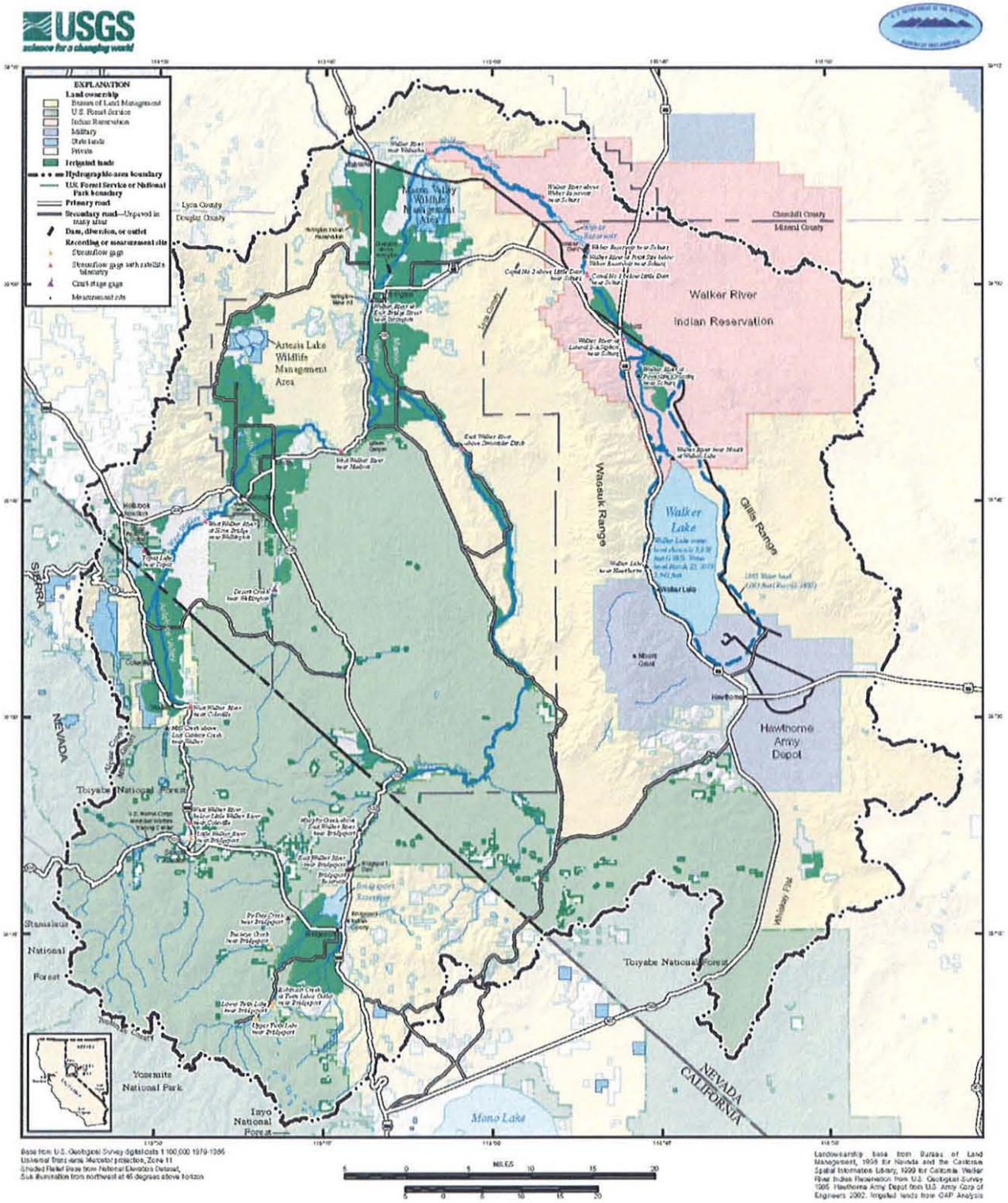

Figure 1. Landownership in the Walker River Watershed (USGS, 2003).

1.4 PROJECT LOCATION

The Walker River Basin is located in portions of Mono County, California and portions of Douglas, Lyon and Mineral Counties in Nevada. Landownership is composed of private citizens, municipalities, Counties, State, Bureau of Land Management (BLM), U.S. Forest Service (USFS), and Tribes (Figure 1).

1.5 DECISION TO BE MADE

Based on the analysis documented in this Environmental Assessment (EA), the Nevada Field Office Supervisor of the U.S. Fish and Wildlife Service would determine whether providing financial and technical assistance for the removal and eradication of invasive weeds in the Basin would have a significant effect on the quality of the human environment. Noxious weed removal would be completed by manual and mechanical removal and hand spraying of herbicides where appropriate.

1.6 PUBLIC INVOLVEMMENT

The EA was made available for public review and comment for 16 days, a public notice was posted in the weekly Mason Valley Newspaper on May 16 and May 23, 2008 and was e-mailed to local agencies in the Walker River Basin, members of the CWMA, and other relevant parties. A single comment was received from Ms. Lynn Steyaert of Schroeder Law Offices, P.C. on May 30, 2008. Ms. Steyaert is concerned that the USFWS is not looking at all future potential projects under this current EA.

Fish and Wildlife Service's current actions are demonstration projects partially funded by P.L. 109-103. Future restoration activities completed under P.L. 109-103 will be developed with willing landowners based on an assessment of current watershed conditions and consistent with the intent of the legislation and the appropriate level of NEPA compliance will be determined for all future activities.

The EA is available for public review on-line at http://www.fws.gov/nevada under "Quick Links!", and available at the Lyon County Library, 20 Nevin Way, Yerington, NV, Smith Valley Library, 22 Day Lane, Smith, NV, Mason and Smith Valley Conservation Districts Office, 215 W Bridge St. Ste, 11A, Yerington, NV, and the USFWS, Nevada Office, 1340 Financial Blvd., Ste. 234, Reno, NV. Questions should be addressed to Joy Giffin, US Fish and Wildlife Service, 1340 Financial Blvd., Reno, NV 89502, or (775) 861-6344, joy_giffin@fws.gov.

2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

2.1 ALTERNATIVE A – NO ACTION

Under the no action alternative the Service would provide no funds for noxious weed removal and eradication in the Basin. Remote areas of the Basin would continue to go

untreated and only a limited array of noxious weeds would continue to be treated. Under this alternative noxious weed eradication would be unattainable.

2.2 ALTERNATIVE B – PROPOSED ACTION

Under the proposed action the Service would provide funds and technical support for detailed mapping of noxious weeds throughout the watershed, and weed removal using mechanical and manual removal techniques and herbicide application where appropriate.

2.3 ALTERNATIVES CONSIDERED, BUT ELIMINATED FROM ANALYSIS

The use of aerial spraying was considered as a means to eradicate noxious weeds in the Basin. The inability to target individual species and the close proximity of the noxious weeds to the river system prevent aerial spraying from being a viable option, it was not considered further.

3.0 AFFECTED ENVIRONMENT

3.1 BIOLOGICAL ENVIRONMENT

The **proposed action** would occur within the riparian corridor of the East, West, Main Stem, and Tribal Reach of the Walker River. **Vegetation** currently consists of a mixture of riparian habitats consisting of early succession riparian, riparian shrub, riparian forest, wet meadow, emergent marsh/wetland vegetation (Otis Bay Ecological Consultants, 2007).

Riparian vegetation provides habitat for numerous **wildlife** species including a diversity of bird species, such as the Great Blue Heron, Song Sparrow, White-faced Ibis, and Yellow Warbler (Great Basin Bird Observatory, 2008).

There is one **threatened species,** the Lahontan cutthroat trout (LCT), within the action area. LCT is currently stocked in Topaz Reservoir and the lower portion of the Tribal Reach of the Walker River, approximately 0.25 miles upstream of Walker Lake. LCT is only present in the River system for 8 to 12 hours before entering Walker Lake. The lower section of the Tribal Reach of the Walker River tends to go dry for extended periods of time during the summer months. LCT is currently prevented from moving freely through the system due to impoundments throughout the entire river system and extended periods the lower portions of the Tribal reach of the Walker River is dry.

There are no **endangered** or **candidate species** within the action area.

3.2 PHYSICAL ENVIRONMENT

The Walker River (River) watershed is approximately 10,200 km^2 and formed by portions of the Sierra Nevada Mountains in eastern California and Western Nevada. The

River has two main tributaries that feed into the system, the East Walker River and the West Walker River. These tributaries drain the high elevations of the eastern face of the Sierra Nevada and flow in a northwesterly and northeasterly direction, respectively, converging in Mason Valley; approximately six miles south of the City of Yerington. The River continues to flow north through Wabuska where is then turns east and southeast through the Walker River Paiute Tribe Reservation ending in Walker Lake, a desert terminal Lake. Discussions of the Walker River system focus on the East, West, Main Stem, and Tribal Reach of the Walker River (Figure 1).

3.3 SOCIAL AND ECONOMIC ENVIRONMENT

The Basin encompasses both public and private land. The river provides recreational activities on public land, including camping and fishing, while also providing a source of revenue for private landowners on the river including fishing, camping, and other resort activities. A large portion of the river flows through Mason Valley and Smith Valley, which are agricultural communities. The river is a key source of water for the agricultural communities, supplying water for irrigation of crops and stock water for livestock.

Distribution of **cultural resources** in the Basin have been influenced by the Walker River, which is an important artery, bringing water from the Sierra Nevada Mountains through the desert to Walker Lake. Human habitation of the Great Basin spans at least 10,000 years. Within this period the Walker Lake was once part of Lake Lahontan until dryer conditions prevailed and the lake receded. Native Americans traveled throughout the region collecting food and tool resources in a seasonal round cycle that included riverine, upland, and forest environments. Archaeological investigations suggest the wide use of the environment by native groups. Residential sites are often referred to as winter villages when families gathered together in the lower elevation valleys, during the spring, summer, and fall people traveled to resource specific locations. Temporary camps and isolated features are usually associated with seasonally available resources.

Sources of raw materials were found along the river including soft sandstone for pipes, salt, and chert for tools (Pendleton, et al. 1982). Archaeological evidence of prehistoric and historical land use in the project area may be overprinted by the meandering course of the Walker River, but may include lithic scatters, bedrock mortars, or historic debris scatters, along with homesteads, buildings, roads, trails, ditches, or bridges. For the most part, recorded archaeological sites are located along upper terraces overlooking the river.

4.0 ENVIRONMENTAL CONSEQUENCES

The analysis of environmental consequences focuses only on the proposed action of contributing funds toward manual, mechanical, and chemical noxious weed removal and the inventory of noxious weeds in the Basin. Communities that would be affected by this proposed action have independently identified noxious weeds as a problem. Currently, the Walker River Weed Control District (WRWCD) is funded by property tax on individuals in the assessed areas of Lyon County. The WRWCD is responsible for treating whitetop, knapweed, Canada thistle, musk thistle, scotch thistle, yellow-star

thistle and puncture vine in the Mason and Smith Valley areas. The WRWCD does not cover the entire watershed, nor does it include all noxious weeds.

Federal grants for noxious weed control may fund activities on private, State, tribal, BLM, and USFS lands. Both the BLM and the USFS completed environmental assessments that analyzed noxious weed control on lands they manage (BLM, 2008; United States Department of Agriculture, Forest Service, 2001a, 2001b, 2002, and 2003). The BLM and USFS environmental assessments are incorporated by reference. These documents sufficiently address noxious weed control on their land and no additional analysis is necessary in this environmental assessment. The impact analysis below focuses on potential effects to private, State and tribal lands.

4.1 BIOLOGICAL ENVIRONMENT

Under the **No Action** alternative noxious weed management of designated weeds in accessible areas would continue to be treated. Noxious weeds in the headwaters of the Basin and many other poorly accessible areas would continue to go untreated, thus continuing to add a steady seed source into the river system. Seeds would continue to be transported throughout the Walker River riparian zone, negatively impacting the quality of riparian habitat for species that rely on it for their forage, cover, and reproduction.

Under the **Proposed Action** noxious weed treatments would occur throughout the watershed. Under this alternative riparian habitat would be preserved and enhanced. This action would have **no effect** on any **threatened or endangered species**. LCT is the only threatened species present in the action area. Currently, LCT is stocked in Topaz Reservoir and the lower portion of the Tribal Reach of the Walker River, approximately less than 0.25 miles upstream of Walker Lake. LCT is only present for less than 8 to 12 hours in the lower portion of the Tribal Reach of the river system before entering Walker Lake. Records indicate that LCT has never been stocked in the Nevada portion of the Main and West Stem Walker River, and no stocking has occurred in the Nevada portion of the East Walker River since 1999 (Tisdale, 2008). At the present time no LCT stocking is occurring in the California portions of the Walker River (Becker, 2008). The only location within the action area where LCT is present is during stocking (generally March/April) in the lower section of the Tribal Reach of the Walker River. This lower section of the river goes dry for extended periods of time during the summer months. Herbicide application would only be completed in the lower Walker River, when no LCT is present in the system, and when the river is dry.

The Service would review each separate grant application to ensure it is in compliance with the Endangered Species Act (ESA).

4.2 PHYSICAL ENVIRONMENT

Under the **No Action alternative** noxious species would continue to spread throughout the Walker River watershed, this could potentially negatively impact the water quality by decreasing the riparian buffer zone, resulting in increased amounts of exposed soil and

increasing the potential for soil erosion. Untreated noxious weeds can grow into dense monocultures out competing native plants and reducing wildlife habitat. Costs associated with controlling noxious weeds on agricultural lands would likely increase under this action.

Under the **Proposed Action** the water quality would potentially be positively impacted by an enhanced riparian buffer zone, reducing potential run-off into the Walker River system. It is possible that some herbicides would come into contact with the surface water during application, which is why only herbicides approved for use within a riparian zone are used. Herbicides are used in accordance with the guidelines on the label, as required by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Herbicides are always applied in accordance with the specified quantity per area, application, and proper protective equipment. Additional best management practices include not spraying in windy conditions, high temperatures (for example over 85 degrees Fahrenheit) or when precipitation is forecasted. Best Management Practices outlined on the labels of each herbicide would always be followed (Appendix B).

A healthy riparian buffer zone can reduce runoff of sediment into the river system. This action would also increase key habitat for birds, mammals, and aquatic species in the riparian corridor. Over time this action would result in decreased noxious weeds in the system and reduce the need and associated cost of treating noxious weeds on agricultural land.

4.3 SOCIAL AND ECONOMIC ENVIRONMENT

Under the **No Action** alternative, the local agencies would continue to address the noxious weeds on a localized scale according to regulations set forth in Nevada Revised Statues (NRS) 555.150 and 555.208 "Noxious Weed Control Laws." The agricultural community would continue to battle with noxious weeds in the crops, such as alfalfa. This would continue to decrease the ability for local feed grown in Nevada to be exported into California and other states. The Pest Exclusion Code of California prevents contaminated shipments of agricultural commodities into California (California Noxious and Invasive Weed Action Plan, 2005). In addition, Nevada property owners with noxious weed infestations would experience diminished property values due to abatement regulations set in NRS 555.

Under the **Proposed Action**, the Service would provide funds to control and eradicate the noxious species throughout the Basin. In time, this would result in diminished noxious weeds within the agricultural fields, reduce concerns of weeds in local feed and mitigate negative impacts to private property values. It is the policy of the Service to identify, protect, and manage **cultural resources** located on Service lands and affected by Service undertakings for the benefit of present and future generations in accordance with the National Historic Preservation Act (NHPA). An on-line search of the Nevada Cultural Resource Information System (NVCRIS) indicates that very little of the river corridor has been surveyed for **cultural resources**. Surveys have been conducted by the Nevada

Department of Transportation, USFS, and Universities. Archaeological studies and surveys have generally not been completed on the privately owned or tribal lands.

The National Historic Preservation Act (NHPA) of 1966 (as amended 2004) establishes the Federal government's responsibilities for historic preservation. The proposed Walker River Noxious Weed Plan will provide funds and technical assistance for noxious weed control and eradication, beginning in the headwaters of the Walker Basin, and methodically moving down stream identifying and mapping all noxious weeds and treating weeds with appropriate herbicide, manual, and mechanical techniques. The control of weeds with manual and mechanical means is considered an undertaking as per 36 CFR 800.16(y) and has the potential to cause effects to historic properties (36 CFR 800.3). The NHPA requires Federal agencies having direct or indirect jurisdiction over a proposed Federal or federally assisted or permitted undertaking, to consider the potential effects that the undertaking may have on historic properties listed on or eligible for the National Register of Historic Places. Additionally, the NHPA affords the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on such undertakings (16 U.S.C. 470f). The California and Nevada State Historic Preservation Offices (SHPO) and the ACHP are the state and Federal agencies responsible for overseeing the management and protection of historic properties in compliance with the NHPA.

The noxious weed inventory and range of treatment actions that include manual and mechanical removal, and spraying has low potential for effecting cultural resources as defined in the Service's Programmatic Agreement (PA) with the California SHPO and Nevada SHPO. The PA defines the "removal of plants through cutting, mowing, herbicides, manual uprooting with hand tools" as meeting the threshold of an Appendix A project. Appendix A projects are "by definition considered undertakings, but would have negligible potential to affect historic properties, and therefore do not require a field inspection, monitoring, or other form or cultural resource identification". A report of all Appendix A undertakings is prepared and filed with the SHPO as part of an annual Service report.

5.0 CUMMULATIVE EFFECTS

Under the **No Action** alternative noxious weeds would continue to spread throughout the Basin. Lyon County landowners would continue to pay a weed tax, but without addressing noxious weed issues throughout the entire Basin including difficult to access sections there would be no potential to eradicate noxious weeds. This alternative would also result in a decline in riparian habitat for the native species which rely on the riparian vegetation

Under the **Proposed Action** alternative there would be a reduction in noxious weeds overtime. Resulting in decreased costs associated with noxious weed management. The action would result in increased habitat for native species and increased riparian buffer zone.

6.0 COMPLIANCE, CONSULTATION, AND COORDINATION

6.1 AGENCIES AND PERSONS CONSULTED

- Inyo/Mono Agriculture and Weights and Measures Department/Eastern Sierra Weed Management Area, Nathan Reade
- Mason and Smith Valley Conservation Districts, Michelle Langsdorf, District Manager
- Nevada Department of Wildlife, Kim Tisdale
- US Fish and Wildlife Service, California and Nevada Region, Patricia Roberson, NEPA Coordinator,
- US Fish and Wildlife Service, Nevada Field Office, Lou Ann Speluda-Drews, Archeologist
- US Fish and Wildlife Service, Lahontan National Fish Hatchery Complex, Stephanie Byers, Fisheries Biologist
- US Fish and Wildlife Service, Lahontan National Fish Hatchery Complex, Joy Giffin, Walker River Restoration Coordinator
- Walker River Basin Cooperative Weed Management Area, Michelle Langsdorf, Chairperson
- Walker River Weed District, Bud Stinson, District Manager

6.2 PERTINENT LEGISLATION AND REGULATIONS ADDRESSED

- **National Environmental Policy Act (NEPA)** – The EA is in compliance with NEPA.

- **Endangered Species Act (ESA)** – The proposed actions would have no effect on any **endangered**, **threatened**, or **candidate** species.

- **Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)** - All labels would be followed, and herbicide application will always follow all best management practices.

- **National Historical Preservation Act** – The Service would comply with all applicable cultural resource regulations and policies prior to advancing funds, issuing a permit, or implementing ground disturbing activities. A programmatic agreement (PA) has been developed between the Service and the Nevada State Historic Preservation Officer (SHPO) and the California SHPO. The PA outlines procedures for complying with the NHPA.

- **Nevada Revised Statues (NRS) 555.150 and 555.208** – The proposed activities are in line with NRS regarding noxious weed eradication.

- **Executive Order 11988, Floodplain management** – Proposed actions would restore native vegetation within the floodplain. These activities would not impact land use within the flood plain.

- **Executive Order 11990, Protection of wetlands** – Proposed actions would not impact wetlands and there would be no destruction, loss or degradation of wetlands.

7.0 REFERENCES

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Great Basin Bird Observatory, 2008. Walker River Baseline Inventory for Breeding Birds, 2006 – 2007. Progress Report.

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United States Department of Agriculture, Forest Service. 2002. Environmental Assessment: Rosaschi Ranch Restoration Project.

United States Department of Agriculture, Forest Service. 2003. Decision Notice and Finding of No Significant Impact: Rosaschi Ranch Restoration Project.

USGS. 2003. http://nevada.usgs.gov/walker/Walker_Poster_v8_tabloid.pdf

8.0 APPENDICES

APPENDIX A – TARGETED SPECIES

Targeted Species:

Category A

Common crupina	Crupina vulgaris
Dalmation Toadflax	Linaria dalmatica
Hydrilla	Hydrilla verticillata
Sow Thistle	Sonchus arvensis
Spotted Knapweed	Centaurea masculosa
Yellow Starthistle	Centaurea solstiltialis

Category B

Musk Thistle	Carduus nutans
Russian Knapweed	Acroptilon repens
Scotch Thistle	Onopordum acanthium

Category C

Canada Thistle	Cirsium arvense
Hoary cress	Cardaria draba
Perennial pepperweed	Lepidium latifolium
Poison Hemlock	Conium maculatum
Puncture vine	Tribulus terrestris
Salt cedar (tamarisk)	Tamarix spp
Water Hemlock	Cicuta maculata

The following are not known to be in the Basin, but are subject to Early Detection/Rapid Response measures:

Category A

African Rue	Peganum harmala
Austrian fieldcress	Rorippa austriaca
Austrian peaweed	Sphaerophysa salsula / Swainsona salsula
Camelthorn	Alhagi camelorum
Dyer's woad	Isatis tinctoria
Eurasian water-milfoil	Myriophyllum spicatum
Giant Reed	Arundo donax
Giant Salvinia	Salvinia molesta
Goats rue	Galega officinalis
Houndstongue	Cynoglossum officinale
Iberian Star thistle	Centaurea iberica
Klamath weed	Hypericum perforatum
Leafy spurge	Euphorbia esula
Malta Star thistle	Centaurea melitensis
Mayweed chamomile	Anthemis cotula
Mediterranean sage	Salvia aethiopis
Purple loosestrife	Lythrum salicaria, L.virgatum and their cultivars
Purple Star thistle	Centaurea calcitrapa
Rush skeletonweed	Chondrilla juncea
Squarrose star thistle	Centaurea virgata Lam. Var. squarrose
Sulfur cinquefoil	Potentilla recta
Syrian Bean Caper	Zygophyllum fabago
Yellow Toadflax	Linaria vulgaris

Category B

Carolina Horse-nettle	Solanum carolinense
Diffuse Knapweed	Centaurea diffusa
Medusahead	Taeniatherum caput-medusae
Sahara Mustard	Brassica tournefortii
White Horse-nettle	Solanum elaeagnifolium

Category C

Black henbane	Hyoscyamus niger
Green Fountain grass	Pennisetum setaceum
Johnson grass	Sorghum halepense

NAC 555.010

Category A weeds are weeds that are generally not found or that are limited in distribution throughout the State. Such weeds are subject to:

(a) Active exclusion from the State and active eradication wherever found.

(b) Active eradication from the premises of a dealer of nursery stock.

Category B weeds are weeds that are generally established in scattered populations in some counties of the State. Such weeds are subject to:

(a) Active exclusion where possible.

(b) Active eradication from the premises of a dealer of nursery stock.

Category C weeds are weeds that are generally established and generally widespread in many counties of the State. Such weeds are subject to active eradication from the premises of a dealer of nursery stock.

APPENDIX B - DIRECTIONS FOR HERBICIDE USE AND MSDS SHEETS

Table of Contents for Appendix B:

Appendix B

Product Information	Page Number
2,4-D Amine Label	1
2,4-D Amine Supplemental Information	14
2,4-D Amine MSDS Sheet	15
2,4-D Ester label	21
2,4-D Ester MSDS Sheet	27
Arsenal Label	33
Arsenal MSDS Sheet	51
Curtail Label	58
Curtail MSDS Sheet	66
Diuron Label	72
Diuron MSDS Sheet	81
Escort Label	84
Escort Supplemental Information	99
Escort MSDS Sheet	103
Garlon 3A Label	112
Garlon 3A Supplemental Information	121
Garlon 3A MSDS Sheet	126
Garlon 4 Label	131
Garlon 4 MSDS Sheet	140
Milestone Label	144
Milestone MSDS Sheet	152
Rodeo Label	155
Rodeo MSDS Sheet	172
Telar DF Label	175
Telar DF Supplemental Information	184
Telar DF MSDS Sheet	187
Tordon 22k Label	203
Tordon 22k Supplemental Information	217
Tordon 22k MSDS Sheet	219

Amine Label

AgriSOLUTIONS™

2,4-0 Amine 4

ACTIVE INGREDIENT:	
Dimethylamine salt of 2,4-Dichlorophenoxyacetic acid •	.47.3%
OTHER INGREDIENTS :	52.7%
TOTAL	100.0%

'Isomer specific by AOAC Method No. 6.275 (13th Edition) 1980

• 2,4-Dichlorophenoxyacetic acid equivalent 39.3%. Contains 3.8 Ibs. of 2,4-Dichlorophenoxyacetic acid per galion.

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 detalie
(If you do not understand the label, find some one to explain it to you in detaiL)

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER

Corrosive. Causes irreversible eye damage. May be fatal If absorbed through skin. Harmful if swaliowed or inhaled. Do not get in eyes, on skin or on clothing. Avoid breathing spray mist.

FIRST AID

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

IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip glass of water if able to swaliow. Do not induce vomiting unless told to by a poison control center or doctor.

IF IN EYES: Hold eyelids open and rinse slowiy and gently with water for 15-20 minutes. Remove contact ienses, if present, after the first 5 minutes, then continue rinsing. Cali a poison control center or doctor for treatment advice.

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

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

• Have the product container or label with you when caliing a poison control center or doctor or going for treatment.

• For additional information in case of medical emergency cali tali free 1-877-424-7452.

For additional Precautionary Statements see inside booklet.

EPA Reg. No. 1381·103 EPA Est No.

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Agriliance, LLC

P.O. Box 64089, St. Paul MN 55164-0089 01041817

Personal Protective Equipment:
Some of the materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart.

Applicators and other handlers must wear:

Coveralls over short-sleeved shirt and short pants.
- Chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride.
• Chemical-resistant footwear and socks.
- Protective eye wear.
Chemical-resistant headgear for overhead exposure.
- Chemical-resistant apron when cleaning equipment, mixing, or loading.

Discard clothing or other absorbent materials that have been drenched or heaviiy contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning or maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. After each day of use, clothing or PPE must not be reused until it has been cleaned.

Engineering controls statement:
If this container contains 5 gallons or more in capacity, do not pour product from this container. A mechanical system (pump and probe or spigot) must be used in transferring the contents of this container. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal. If the mechanical system is used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)]. the handler PPE requirements may be reduced or modified as specified in the WPS.
When handlers use closed systems, enclosed cabs, or aircraft, in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agriculturai pesticides [40 CFR 170.240 (d) (4-6)]. the handier PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users should:
- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. •
- Remove clothing immediately if p.,sticide 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.

ENVIRONMENTAL HAZARDS

This product is toxic to aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates and nan-target plants. For terrestrial uses, do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.
Most cases of groundwater contamination involving phenoxy herbicide such as 2,4-0 have been associated with mixinglloading and disposal sites. Caution should be exercised when handling 2,4-0 pesticides at such sites to prevent contamination of groundwater supplies. Use of closed systems for mixing and transferring this pesticide will reduce the probabiiity of spills. Placement of mixinglloading equipment on an impervious pad to contain spills will help prevent groundwater contamination.
Use care to avoid spray contact or drift to susceptible plants such as beans and other legumes, flowers, colton, grapes, ornamental, vegetables, and other plants. Do not permit spray mist containing this product to drift onto them, since even very small quantities of the spray, which may not be visible, can cause severe injury during both growing and dormant periods.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its label. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handiers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regUlation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its iabeling 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 statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box apply only to those 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 over short sleeved shirt and short pants,
- Chemical-resistant gloves made of any waterproof material.
- Chemical-resistant footwear plus socks,
- Protective eyewear,
- Chemical-resistant headgear for overhead exposure,

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.**

Do not allow people (other than applicator) or pets on treatment area during application, Keep unprotected persons and pets out of treated areas until sprays have dried.

STORAGE AND DISPOSAL

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

STORAGE: Store pesticides in a secure warehouse or storage building, in original container only, Store at temperatures above 32°F. If allowed to freeze, rewarm to 40°F; remix thoroughly before using. This does not aller this prodUCt. Containers should be opened in well ventilated areas. Keep container tightly sealed when not in use. Do not stack cardboard cases more than two pallets high. Do not store near open containers of fertilizer, seed or other pesticides.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous, 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 according to label instructions, contact your State Pesticide or Environmental Control Agency, orthe Hazardous Waste Representative althe nearest EPA Regional Office for guidance,

CONTAINER DISPOSAL: Plastic containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, 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. Metal containers: Triple rinse (or equivalent), Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

WEED LIST

2,4-D Amine 4 will control these plants and other 2,4-0 susceptible species:

ANNUAL AND BIENNIAL WEEDS

Annual fanweeed (field pennycress), annual yellow sweet clover, • beggarticks, bull thistle, burdock, carpetweed, chickweed, cocklebur, coffeeweed, common mullein, common evening primrose, comflower, croton, galinsoga, goatsbeard, hemp, henbit, jewelweed, jimsonweed' knotweed, • kochia,lambsquarters, mallow (Venice, dwarf, little), marshelder, morningglory (common, ivy, woolly) musk thistle, mustards (except blue), pennycress, pepperweed (field), .. pigweeds, poorjoe (woolly plantain), • prickly lettuce, puncturevine, purslane, ragweed (common, giant), rough fleabane, rush, Russian thistle, salsify, sheperdspurse, • stinkweed, smartweeds (annual), sowthlstle (annual or spiny), sunflower, tansymustard, tumbleweed, • velvetleaf, vetches, water primrose, • wild carrot, wild lettuce, wild parsnips, wild radish, wild sweet potato.

PERENNIAL WEEDS

• Alfalfa, • bindweeds (hedge, fleld and European), blue lelluce, • broom snakeweed, buckhorn plantain, buttercup, • Canada thistle, catnip, chamise, chicory, climbing milkweed, common duckweed, curly indigo, dandelion, • docks, • dogbanes, • **goldenrod, * ground ivy, * hawkweed (orange), * hoary cress, * Jerusalem artichoke, locoweed''' many-flowered aster,**

milkvetch, • nettles, nutgrass, plantains, poison ivy, pokeweed, sheep sorrel, sicklepod, sneezeweed (bitter), sowthistle (perennial), • tansy ragwort, • vervains, • wild garlic, • wiid onion, witchweed, wormwood, yeilow rocket, yeilow starthistle.

• BRUSH

Boxelder, buckbrush, coyotebrush, elderberry, manzanita, rabbitbrush, sagebrush (coastal, big, sand), sand shinnery oak, sumac, wiliow.

AQUATIC WEEDS

Ailigatorweed, parrotfeather, waterhyacinth, waterliiy, water primrose

• These species may require repeat treatments and/or the higher rate... Control of pigweeds in the Texas and Oklahoma High Plains may be difficult.

USE DIRECTIONS

Unless noted otherwise under individual DIRECTIONS section, for aerial application, apply the recommended amount in a minimum of 2 gailons of water per acre. For ground application, apply the recommended amount in a minimum of 3 gailons of water per acre. Use more water for both methods when adverse growing conditions are present. DO NOT apply with high spray pressures, hoilow cone or other nozzle types that produce smail spray droplets which may drift. Avoid spray drift by making applications when conditions such as wind, air stability and temperature inversions are not a factor. The use of a suitable drift control agent at the proper rate will aid in the reduction of spray drift. Apply when weather is warm and plants are rapidly growing. Cold weather or dry conditions may cause poor results. DO NOT apply if rain is expected within 6 hours. Consult your local agronomist or Extension specialist for specific use and crop tolerance situations. Do not apply this product through any type of irrigation system.

MIXING INSTRUCTIONS

WATER BASED SPRAY -- Fiil the equipment halffuil of water, agitate while adding this product, then add the rest of the water.

NITROGEN FERTILIZER: Weed and feed applications for corn, smail grains, grasses grown for seed or grass pastures according to label use rates. - Add half the fertilizer to the tank, and then add recommended label amount of 2,4-D AMINE 4 per acre. Agilate constantly and vigorously and finish filling the spray tank with fertilizer. Apply as soon as possible, agitating constantly. Do not hold spray mixture overnight. If incompatibiiity is a problem, the use of COMPLETE agent at the recommended label rate may correct the problem. Fertilize according to the recommendations of your supplier or your Extension specialist. Herbicide foliage contact burning may occur as a result of fertiiizer use. Lower use rates and concentrations will reduce this problem.

Adjuvants for Preemergence and Preplant Applications: A non-ionic surfactant such as or a crop oil concentrate may be added to the spray solution when this product is applied preemergence,pr preplant to increase control of large or difficult to control weeds. Crop oil concentrates must contain at least 17% emulsifier, and should be used at 1% volume/volume (1 gailon per 100 gailons of spray solution). Non-ionic surfactants should be used at a 0.25% VOlume/volume (1 quart per 100 gailons of spray solution). Wash spray equipment thoroughly with cleaner after using this product. When cleaning, do not pour washwater on the ground: spray or drain over a large area away from weils or other water sources. Apply the recommended amount of 2,4-D per acre regardless of the amount of diiuent used.

APPLES, PEARS, STONE FRUIT AND NUT ORCHARDS (Do not use in California)

WEEDS	Amount Per Acre	DIRECTIONS
Annual broadleaf weeds	3 pints	Apply to orchard floor using coarse sprays and low pressure in sufficient volume of water to obtain thorough wetting of weeds. Treat when weeds are smail and actively growing.
RESTRICTIONS AND LIMITATIONS FOR USE UNDER ORCHARD CROPS - Do not use on light, sandy soils. Do not apply to bare ground as crop injury may result, nor apply immediately before irrigation and withhold irrigation for 2 days before and for 3 days after treatment. Do not ailow spray to drift onto or contact foliage, fruit, stems, trunks of trees or exposed roots as injury may result. Do not apply to neWly established or young orchards. Trees must be at least 1 year old and in vigorous condition. Do not apply during bloom and do not graze or feed cover crops from treated orchards. Make no more than 2 applications per year with a retreatment interval of at least 75 days. Do not harvest apples and pears within 14 days of application, stone fruit Within 40 days of application nor harvest nuts within 60 days of application.		

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Amine 4 per use season.

RESTRICTIONS AND LIMITATIONS FOR SWEET CORN Do not harvest ears within 45 days after application. Do not make a postemergence application any less than 21 days after a prior application. Do not apply more than 3.0 pts.lacre of **Amine 4 per use season.**

SOYBEANS

WEEDS	Amount Per Acre	DIRECTIONS
Preplant - emerged broadleaf weeds	1 to 2 pints'	After applying, plant soybean seed as deep as practical or at least *1-112* to 2 inches deep, Seed furrow must be completely closed or severe crop injury will result.

RESTRICTIONS AND LIMITATIONS FOR SOYBEANS', Planting of soybeans must be delayed a minimum of 15 days after application at rates up to 1 pint per acre, and a minimum of 30 days at rates from 1 to 2 pints per acre, Do not perform tillage for at least 7 days after application, Do not use on sandy salls or unacceptable crop injury may result. Do not replant treated fields in the same growing season with crops that are notlabe,ied for 2,4-0 preplant use, Oniy one application per growing season, regardless of the application rate used, is aliowed, Use a minimum spray volume of 10 gallons per acre for ground applications and 2 gallons per acre for aerial applications,

Do not feed hay, forage or fodder, Restrict livestock from grazing treated fields. Livestock should be restricted from feeding/grazing of treated cover crops, Do not graze or cut soybeans for feed from fields that have had 2,4-0 applied as a oreolant treatment.

SMALL GRAINS - Not underseeded with legumes

WEEDS	Amount Per Acre	DIRECTIONS
Postemergence Spring wheat, barley, millet and rye Annual and biennial weeds	2/3 to 1-1/3 **pints** ‹	Apply when grain is in full tiller stage (4 to 8 inches high) but before boot stage (Zadoks 25 to 4_0) when weeds are small and actively growing. Up to 1-1/3 pints per acre may be used for difficult weed probiems, but do not use unless some crop damage is acceptable.
Perennial broadleaf weeds	2 to 3 **pints ****	Apply only in the spring when crop is fUlly tiliered, but before grain is in boot stage (before Zadoks 4_0). For improved control of difficult weeds, appiy up to 3 pints per acre,

" DO NOT USE THE HIGHER RATE IF POSSIBLE CROP INJURY IS NOT ACCEPTABLE.

Spring and winter wheat and barley Resistant weeds	2,4-0 Amine 4 may be used in combination with "Ally" 'M, "Harmony Extra" 'M, "Express" TM, "Finesse" TM, at their earlier application intervals to control resistant weeds such as kochia and Russian thistle, Follow application directions on each'productlabel.	
Winter wheat and rye Annual weeds	1 to 1-1/3 pints "	Apply only in the spring when crop is fully tiliered, but before grain is in boot stage (before Zadoks 4_0), For improved control of difficult weeds, apply up to 1-1/3 pints per acre.

.. DO NOT USE THE HIGHER RATE iF POSSIBLE CROP DAMAGE IS NOT ACCEPTABLE,

Emergency weed control in wheat Perennial broadleaf weeds	**3 pints ****	Apply when weeds are approaching bud stage, after grain dough stage, Do not apply during boot (Zadoks 25to 4_0) to dough (Zadoks 8,) stage.

"DO NOT USE THIS RATE UNLESS POSSIBLE CROP DAMAGE CAN BE TOLERATED,

Spring-seeded oats	1/2 to 1 pint'	Apply at fulltilier, but before early boot stage (Zadoks 25to 4_0).
Fall seeded oats grown for grain (Southern)	1 to 1-114 **pints'll**	Apply at full tiller, but before early boot stage (Zadoks 25 to 4_0),

, Difficult to control weeds may require higher rate, but some injury may occur since oats are less tolerant to 2,4-0 than wheat or barley. DO NOT spray during or just after cold weather

Preharvest - Cereal grains	1-112 to 2 **pints ****	Apply when grain is in hard dough stage (Zadoks 8,) to control large weeds that will interfere with harvest. Apply when soil moisture is adequate for weed growth for best results,

, Use the lower rate for small annual and biennial weeds, Use the higher rate for perennial weeds or hard-to-kill annual or biennial weeds. The higher rate should be used only where heavy weed infestation is a problem and increased risk of crop damage is acceptable.

RESTRICTIONS AND LIMITATIONS FOR SMALL GRAINS· Do not feed treated straw to livestock. Do not let dairy animals or animals beln finished for slau hter fora e or raze treated fields within 2 weeks of treatment.

GRAIN SORGHUM

WEEDS	Amount Per Acre	DIRECTIONS
Annual broadleaf weeds	1 pint	Apply to plants that are 5 to 15 inches tall. DO NOT treat plants less than 5 inches tall or from boot to early dough stage. Use drop nozzles when crop is 8 inches or taller.
Perennial broadleaf weeds	*1-112* pints	The higher rate *may* be needed for some weeds, but chances of crop injury may **increase.**

DO NOT use oil. Some varieties and hybrids are 2,4-D sensitive. Crop injury may also be increased by high moisture and temperature conditions. Check with your seed company and Extension Service for advice.

RESTRICTIONS AND LIMITATIONS FOR GRAIN SORGHUM - Do not forage or feed fodder for 7 days following applications.

GRASSES GROWN FOR SEED (Do not use in California)

WEEDS	Amount Per Acre	DIRECTIONS
Annual broadleaf weeds	1 to *1-112* **pints ***	Apply to established stands before the seed head comes into the boot stage. Do not spray in boot stage of growth. For seedling grasses - apply in the spring after grass has at least 5 ieaves, but before boot stage. Perennial regrowth may be treated in the fall.
Perennial and biennial weeds	2 to 4 pints'	

• Use only the low rate on seedling grasses.

RESTRICTIONS AND LIMITATIONS FOR SEED GRASSES - Do not graze dairy animals or cut forage for hay within 7 days of applying.

FALLOW GROUND AND CROP STUBBLE

WEEDS	Amount Per Acre	DIRECTIONS
Annual broadleaf weeds	1 to 2 pints	Use the lower rate for small actively growing weeds. Use the higher rate on larger or weather-stressed weeds.
Biennial weeds	2 to 4 pints	Use the lower rate in the spring on biennial weeds such as the musk thistle during the rosette stage before stalks have formed. Use the higher rate after stalk formation or in the fall.
Perennial weeds	2 to 6 pints	Apply during the bloom to bud stage while weeds are actively growing. Do not till for 2 weeks after treatment or until the weeds start to die.
Wild onions and garlic	4 to 6 pints	Apply to regrowth in fall after harvest.

RESTRiCTIONS AND LIMITATIONS FOR FALLOW GROUND AND CROP STUBBLE - Do not graze trealed areas for 7 days after treatment. Remove meat animals from treated areas 3 days before slaughter. Do not replant treated areas for 3 months after application or until chemical has disappeared from the soil.

HOPS

WEEDS	Amount Per Acre	DIRECTIONS
Annual broadleaf weeds	1 pint (0.5 lbs. ae)	Make directed applications to the row middles. Make up to 3 applications at 30-day intervals with the last application before harvest.

RESTRICTIONS AND LIMITATIONS FOR HOPS: Limited to 3 applications per crop cycle. Maximum of 1 pint producVacre (0.5 lbs. *ae/A)* per application. Maximum of 3 pints producVacre (1.5 lbs. *ae/A)* per crop cycle. Minimum of 30 days between applications. Observe the preharvest interval (PHI) of 28 days.

PRECAUTIONS: Hop foliage, especially new growth, is susceptible to this product. Take care to avoid spray or drift outside target area. The use of shielded or hooded sprayers, coarse sprays and low pressure (30 psi or less) will minimize contact with foliage and plant injury.

PASTURES, RANGELAND, CONSERVATION RESERVE PROGRAMS AND SET-ASIDE ACRES

WEEDS AND BRUSH	Amount Per Acre	DIRECTIONS
Annual broadleaf weeds Biennial and perennial weeds"	1 quart 1 to 2 quarts	Do not apply after heads for or when grass is in boot to milk stage when a seed crop is desired. DO NOT use on alfalfa, clover, other legumes, or newly seeded pastures. For aerial application, apply the recommended amount in a minimum of 2 gallons of water per acre. For ground application, use a minimum of 10 gallons of water per acre.
Buckbrush, coyotebrush, rabbitbrush, sagebrush, and other chaparral species	2 quarts	Apply in 5 to 10 gallons of water plus 1-2 quarts of a crop oii concentrate with at least 17 % emulsifiers, per acre or a non-ionic surfactant at .25% vlv surfactant to water (1 quart per 100 gallons of water) per acre.
Sand shinnery oak	**2 quarts··**	Apply 4 gallons of water plus 1-2 quarts of a crop oil concentrate with at least 17 % emulsifiers, per acre or a non-ionic surfactant at.25% v/v surfactant to water· (1 quart per 100 gallons of water) per acre.
Southern wild rose	1 gallon	On roadsides and fencerows, use one gallon of product plus 4 to 8 fiuid ounces of an agricuitural surfactant per 100 gallons of water and spray thoroughly as soon as foliage is well developed. Two or more treatments may be required.
" Deep·rooted perennial weeds may require the higher rate or repeated treatments.•• Woody plants and any regrowth may require repeat treatments.		
RESTRICTIONS AND LIMITATIONS FOR PASTURES, RANGELAND, AND PROGRAM AREAS Do not allow dairy animals to graze treated areas within 7 days of application. Do not harvest grass for hay within 30 days of application. Remove meat animals from treated pastures or rangeiand 3 days before slaughter.		

RICE (Do not use in California)

WEEDS	Amount Per Acre	DIRECTIONS
Preplant - **annual** and biennial weeds **Postemergence - annual and** biennial weeds Perennial and hard-to-kill weeds	1 to 2 pints 1 to 2-1/2 pints 2 to 3 pints'	Appiy 4 or more weeks prior to planting Apply in the late tillering stage of rice development at the time of first joint development (first to second green ring) usually 6 to 9 weeks after emergence. Do not apply after panicle initiation, after rice internodes exceed 1/2 inch, at early seedling, early panicle, boot, flowering or early heading growth stages.
RESTRICTIONS AND LIMITATiONS FOR RICE - Some rice varieties under certain conditions can be injured by 2,4-0. Consult with appropriate agencies prior to application of this product for aquatic weed control. "DO NOT use this rate unless possible crop damage can be tolerated.		

WILD RICE (For use in Minnesota only)

WEEDS	Amount Per Acre	DIRECTIONS
Common waterplantain	1/2 pint (0.25Ibs. ae)	Broadcast in 4 to 10 gallons total spray volume. Apply afterwaterplantain has emerged from the water and when wiid rice is in the 1 to 2 aerial leaf to early tillerlng stage. Do not spray after wiid rice has reached the boot stage.
RESTRICTIONS AND LIMITATIONS FOR WILD RICE For use only on wild rice grown in commercial paddies. Do not apply to wild rice growing in lakes, rivers or streams. Water that is drained out of wiid rice paddies is not to be used to irrigate other crops. In order to protect federally listed endangered or threatened species, the Minnesota Department of Agricullure has a program to pre-notify landowners where pesticide applications may affect federally listed endangered or threatened species. Limited to 1 application per crop cycle. Do not apply more than 1/2 pinUacre of Amine 4 (0.25Ibs. ae/A) per use season.		

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Acre

emerge and through layby.

NON-CROP AREAS - Drainage Ditch Banks, Fence Rows, Roadsides, Rights-of-Way, Airfieids, Railroad, Highway and Utility Rights-of-Way, and Other Non-Crop Areas

Spot Treatment: To control broadleafweeds or brush in small non-cropland areas, apply 6 fl. oz. in 3 gallons of water, mixing thoroughly, and spray to run-off. This high dosage rate may only be used where injury may be toierated.

WEEDS	Amount Per Acre	DIRECTIONS
Annual broadleaf weeds	2 to 4 pints	Apply when weeds are young and growing vigorously.
Perennial and biennial broadleaf weeds	1 to 2 quarts	Spray perennial weeds when near the bud stage, but not flowering. Do not use on SI. Augustine grass. Bentgrass, clover, legumes and dichondra may be injured. Do not apply to newly seeded areas until grass is well established. Deep-rooled perennials may require repeated treatments.
Tansy ragwort and musk thistle		Apply in rosette stage before bolting.
Wild onion and wild garlic		Treat in the early spring and fall when young and actively growing.

TREE, BRUSH, WOODY PLANTS	Amount Per Acre	DIRECTIONS
Southern wild rose	1 gallon	On roadsides and fencerows, apply with 4 to 8 fluid ounces of an agricultural surfactant per 100 gallons of water and spray thoroughly as soon as foliage is well developed.
Woody plants - Ground application	3 quarts	Apply in 20 to 100 gallons of water. For increased effectiveness, add a crop oil concentrate with at least 17 % emulsifiers at 1-2 quarts per acre or a non-ionic surfactant at .25% *v/v* surfactant to water -- 1 quart per 100 gallons of water. Spray volumes of up to 500 gallons per acre may be needed for control if brush **is dense.**
Woody plants - Aerial application	2 to 4 quarts	For solid stands of susceptible brush, apply in 3 to 12 gallons volume per acre. 2 to 4 quarts of fuel oil may be included in this mixture.

RESTRICTIONS AND LIMITATIONS FOR NON-CROP AREAS - Do not graze dairy animals or cut forage for hay within 7 days of application. The maximum seasonal application rate for weed control in non-crop areas is 2 lbs. 2,4-0 acid equivalent (2 qts. of this product) per acre per application site. The maximum seasonal application rate for *woody* plants is 4 lbs. 2,4-0 acid equivalent (4 qts. of this product) per acre per application site.

GOLF COURSES, PARKS, CEMETERIES, TURF GRASS, AND OTHER LAWN AND GRASS AREAS

WEEDS	Amount Per Acre	DIRECTIONS
Annual broadleaf weeds Biennial and perennial weeds	2 pints 2 to 4 pints'	Do not apply to newly seeded areas until grass is well established. Where bentgrass predominates, apply 2 times using a 1 pint per acre rate at 3 week intervals. Do not use on susceptible southern grasses such as St. Augustine. Bentgrass, dichondra, legumes and clover may be injured by this treatment.
• Deep-rooted perennials may require repeat treatments.		
RESTRICTIONS AND LIMITATIONS FOR GOLF COURSES, PARKS, CEMETERIES, TURF GRASS, AND OTHER LAWN AND GRASS AREAS - The maximum number of broadcast applications per treatment site is 2 per year. Do not graze dairy animals or cut forage for hay within 7 days of application.		

WEEDS AND BRUSH ON IRRIGATION CANAL DITCH BANKS

For use in the following seventeen Western States: Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, New Mexico, Nevada, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, Wyoming.

SPRAYING INSTRUCTIONS

Low pressure (10 to 40 PSI) power spray equipment should be used and mounted on a truck, tractor, or boat. Apply while traveling upstream to avoid accidental concentration of chemical into water. Spray when air is calm, 5 mph or less. Do not use for small canals (less than 10 CFS) where water will be used for drinking purposes.

Boom spraying onto water surface must be held to a minimum and no cross-stream spraying to opposite banks should be permitted. When spraying shoreline weeds, allow no more than a 2-footover spray onto water with an average of less than one-foot over spray to prevent introduction of greater than negligible amounts of chemical into water.

WEEDS AND BRUSH	Amount Per Acre	DIRECTIONS
Annual broadleaf weeds Perennial weeds	1 quart 1 to 2 quarts'	Apply in approximately 20 to 100 gallons of total spray. Treat when weeds are young and actively growing before the bud early bloom stage.
Brush and patches of perennial weeds	1 gallon	Apply in 150 gallons of water. Spray to thoroughly wet foliage, using about 1 gallon of spray solution per square rod.
• A repeat spray may be needed after 3 to 4 weeks for maximum reSUlts, using the same rates. Apply no more than 2 treatments **per season.**		
RESTRICTIONS AND LIMITATIONS FOR IRRIGATION CANAL DITCH BANKS Do not allow dairy animals to graze on treated areas for at least 7 days after spraying. Do not harvest grass for hay within 30 days of application. Remove meat animals from treated areas 3 days before slaughter. Water within treated banks should not be fished.		

USES IN FOREST MANAGEMENT

Conifer Release		
BRUSH, HARDWOODS	Amount Per Acre	DIRECTIONS
Alder	1-1/2102 quarts	Apply in 8 to 25 gallons of water as a foliar spray. Treat when 3/4 of the brush fOliage has attained full-sized leaves and before new conifer growth reaches 2 inches in length. This is usually between early May and mid-June. Adjust treatment date depending on stage of growth and brush species. Treatment may cause leader deformation on exposed firs, but firs should overcome this during the second year after spraying.
Ceanothus spp., chinquapin, **madrone, manzanita, oak and** tanoak	3 quarts	To release Douglas fir, hemlock, Sitka spruce or grand fir, apply in 8 to 25 gallons of water before new growth on Douglas fir is 2 inches long. To control manzanita and ceanothus in ponderosa pine, apply before pine growth begins

		in spring. To increase performance, add suitable approved agricultural surfactant at recommended label rate.
Alder, aspen, birch, willow, other competing hardwood **species**	1-1/2 to 3 quarts	After northern conifers, jack pine, red pine, black spruce, and white spruce cease growth and "harden off' (usually in mid-July), apply in 8to 25 gallons of water by air. Since this treatment may cause occasional conifer injury, do not use if such injury cannot be tolerated. Consult regional or extension forester or State herbicide specialist for recommendations to fit local conditions.
Tree Injections (Pine Release)		
HARDWOODS	Amount Per Acre	DIRECTIONS
Oak, hickory, maple, pecan, **elm, sumac, sweetgum,** hawthorn, blue beech, and ash	1 to 2 mL	Appiy 1 to 2 mL undiluted product in a concentrate tree injector. Space injections 2 inches apart edge-to-edge, completely around the tree and close to the base. The injector bit must penetrate the inner bark. On hard-to-kill species such as hickory, dogwood, red maple, blue beech and ash, make injections 1 to 1-1/2 inches apart, edge-to-edge. Treatment may be made at any time of the year. For best results, injections should be made during growing season, May 15 to October 15. For dilute injections, mix 1 gallon of product in 19 gallons of water.

Dormant Application (other than pine)		
BRUSH	Amount Per Acre	DIRECTIONS
Alder, cascara, cherry poplar, and serviceberry	3 quarts	Apply product per acre in sufficient diesel, fuel oil or kerosene for good coverage. Application may be made by ground or air and should be made before conifer bud break
Pine Only		
BRUSH, HARDWOODS	Amount Per Acre	DIRECTION8
Alder, cascara, cherry poplar and serviceberry	2 quarts	Make application while pine buds are still dormant. Apply in sufficient water for good coverage by air or ground equipment. Do not use this' application unless some pine injury is acceptable. Use of diesel, kerosene, or other oil, or addition of surfactants to spray mix may cause unacceptable pine injury.
Herbaceous Weed Control		
WEEDS	Amount Per Acre	DIRECTIONS
False dandelion, klamath weed, plantain, tansy ragwort	1 to 3 quarts	To controi over-wintering weeds, apply in sufficient water for good coverage. Make application at rates and timing indicated above if pines are present.
Hazel brush and similar species (Lake States area)	2 quarts	Apply in 8 to 25 gailons of water when new shoot growth of hazel is complete (usually mid-JUly).
Site Preparation		
BRUSH	Amount Per Acre	DIRECTIONS
Alder	2 to 4 quarts	As bud break spray: Prtor to planting seedlings, apply 2 to 4 quarts in 8 to 25 gallons of water after alder budbreak but before foliage is 1/4 full size. Application may be made by air or ground. As foliage spray: Prior to planting seedlings, apply 2 quarts in 8 to 25 gallons of water after most alder leaves are full size. To increase penetration, a suitable approved agricultural surfactant at recommended label rates may be added to spray mixture. Do not exceed a combined application rate of 4 quarts of this product per acre per site per season.

RESTRICTIONS AND LIMITATIONS FOR ALL FORESTRY USES:
acid equivalent (4 qts. of this product) per acre per application site.

POPLAR/COTTONWOOD TREES GROWN FOR PULP IN OREGON AND WASHINGTON

WEEDS	Amount Per Acre	DIRECTIONS
See the general weeds controlled list	1/2 to 3 pints	Apply through wick applicators or conventional ground sprayers. Note: When irrigating with overhead sprinklers, do not apply this product before an irrigation and withhold irrigation for 2 days before and 3 days after treatment. Do not allow product to contact leaves or green bark of the tree. Apply in enough water to provide uniform coverage prior to or after planting of poplar/cottonwood trees. Application during warm wealher is preferred. Apply when weeds are actively growing, preferably before bud stage. Repeat treatment may be necessary for less susceptible weeds. Reapply as needed. Accord® may be mixed with this product to increase weed control. Follow both labels to determine correct rates. Two quarts or more of Preference Spreader Activator per 100 gallons of spray solution may be added to improve herbicide performance. Accord® is a trademark of Monsanto Company.

AQUATIC WEEDS, SUCH AS WATER HYACINTH, IN QUIESCENT OR SLOW-MOVING WATERS (RIVERS, STREAMS, LAKES, PONDS, RESERVOIRS, DRAINAGE DITCHES, CANALS AND MARSHES)

WEEDS	Amount Per Acre	DIRECTIONS
Surface Application	2-1/2 to 4-1/4 pints	Apply in 50 to 100 gallons of water per acre. Use power sprayers operated with a boom or spray gun mounted on a boat, tractor or truck. Spray to wet foliage thoroughly. Application should be made when leaves are fUlly developed, above water line and plants are actively growing. Avoid spray drift to sensitive crops with low pressure and large nozzles or by using drift control or thickening agents.
Aerial Application	1 gallon	Apply in 5 to 15 gallons of water to cover orie surface acre. Use drift control spray equipment or thickening agents mixed into the spray solution. Apply through standard boom systems with a minimum of 5 gallons of spray mix per acre.

DO NOT apply to more than 1/3 to 1/2 of the water area in anyone month because excessive decaying vegetation may deplete oxygen content of water and kill fish. Begin treatments along the shore and proceed outwards in bands to allow fish to move untreated areas. 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. Repeat as necessary to kill regrowth and plants missed in previous application.

RESTRICTIONS AND LIMITATIONS FOR RIVERS, STREAMS, LAKES, PONDS, RESERVOIRS, DRAINAGE DITCHES, CANALS AND MARSHES - Your State Conservation Department or Fish and Game Commission may require permits for aquatic applications. Check with appropriate agencies. Do not contaminate water used for irrigation or domestic purposes as indicated in directions for irrigation ditch banks. Delay use of treated waters for domestic purposes or irrigation for three weeks after treatment unless testing shows that the water does not contain more than 0.1 ppm 2,4-0 acid. Do not use water from treated irrigation ditches to overhead sprinkle irrigate susceptible crops such as grapes, tomatoes, and cotton.

Notice of Warranty

Seller warrants that the product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use SELLER MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, NOR IS ANY REPRESENTATIVE OF SELLER AUTHORIZED TO MAKE ANY SUCH WARRANTY OR MODIFY THESE TERMS. This warranty does not extend to the storage, handling or use of this product contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to Seller, and Buyer assumes the risk of any such storage, handling or use. Seller shall not be responsible for incidental or consequential damages, if any, resulting from a breach of warranty.

"Ally", "Harmony Extra", "Express", and "Finesse" are registered trademarks of E.!. duPont de Nemours and Company.
"Preference," "COMPLETE COMPATIBILITY" and "PROTANK" are registered trademarks of Agriliance, LLC.

NOTES TO THE FILE

October 23, 2003: Changed waterproof gloves to chemical-resistant under PPE and in *early* re-entry, added "Some of the materials that are chem.·resistant...," revised aquatic applications to include rivers and streams, added uses in forest management, collonwood/poplar trees grown for pulp, and southern wild rose control.

August 25, 2004: Revised label per EPA's ieller dated August 16, 2004.

November 3, 2004: Revised label (forestry and non-crop uses) per Larry Hammond's letter dated Oct. 14,2004.

January 6, 2005: Add popcorn to the section "Corn - Field and Sweet." Prohibit preharvest application to sweet corn. Expand "Restrictions and Limitations for Corn."

August 19, 2005: Added hops and wiid rice.

On next amendment, add horseweed to weed list and plantback restriction under Fallowland and Crop StUbble, to wit:
"All Other Crops: Those not listed on *any* 2,4-D product label *may* be planted 30 or more *days* after application without concern for illegai residues in the pianted crop. However, under certain conditions, there *may* be a risk of injury to these crops. Degradation factors described below should be considered in weighing this risk. Under average conditions, *any* crop *may* be pianted without risk of Injury if at least 90 *days* of soii 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 included warm, moist soil conditions that favor rapid breakdown 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 risk of crop injury prior to planting into treated fields In *your* area." From Dow's DMA 6 Weed Killer, 62719-2.

MATERIAL SAFETY DATA SHEET

II. COMPANY/PRODUCT IDENTIFICATION

Winfield Solutions, LLC
P.O. Box 64589
St. Paul, MN 55164·0589

In Case of Medical Emergency Call:
(877) 424-7452 [US]
(800) 424·9300 [CHEMTREC,24 hours)

PRODUCT NAME:	2,4-D Amine 4
Product Class:	Herbicide
Synonyms:	2,4-D
Active Ingredient(s) and/ or Primary Component(s) :	2,4-Dichlorophenoxyacelic acid, dimethylamine salt
EPA#:	1381-103
Chemical Family:	Phenoxy herbicide

I 2. COMPOSITIONIINFORMATION OF HAZARDOUS INGREDIENTS

CHEMICAL NAME (INGREDIENTS)	CAS NUMBERS	HAZARD	%BY WEIGHT
2, 2,4·Dlchlorophenoxyacetlc acid, dimethylamine salt, isooctyl esters	25168·26·7 & 2008-39-1		47.3
Inert ingredienls'			52.7

**Trade secret information available* as *provided in* 29 *CFR 1910.1200 Ii)*

For EXPOSURE GUIDELINES, See page 3, section 8 of this MSDS

13. HAZARDS IDENTIFICATION

EFFECTS OF OVEREXPOSURE

ACUTE (SHORT TERM EXPOSURE):

EYE: May cause severe irritation with corneal injury and may result in permanent impairment of Vision, even blindness. SKIN CONTACT: Prolonged exposure may cause skin irritation. SKIN ABSORPTION: A single prolonged skin exposure may result in the materials being absorbed in harmful amounts. Ingestion may cause gastrointestinal irritation. INHALATION: Single exposure to vapors is not likely to be hazardous.

after handling product. Shower after each shift. Wash all work clothing and completely clean all PPE (personal protective equipment) after each shift.

MEDICAL CONDITIONS GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE:

None known

PRIMARY ROUTE OF ENTRY: ☒ INHALATION ☒ INGESTION ☒ ABSORPTION

4. FIRST AID MEASURES

Have the product container or label with you when calling a Poison Control Center or doctor, or going for treatment.

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses after the first 5 minutes. then continue rinsing eye. Call a Poison Control Center or doctor for treatment advice.

IF ON SKIN: 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.

IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance then give artificial respiration, preferabiy mouth-to-mouth if possible. Call a Poison Control Center or doctor for further treatment advice.

IF SWALLOWED: Call a Poison Control Center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a Poison Control Center or doctor. Do not give anything by mouth to an unconscious person. Contains petroleum distillate vomiting may cause aspiration hazard.

NOTE TO PHYSICIAN: (ANTIDOTE) N/E

5. FIRE FIGHTING MEASURES

FLASH POINT	FLAMMABLE LIMITS	LOWER EXPLOSIVE LIMIT (LEL)	UPPER EXPLOSIVE LIMIT (UEL)
N/E	N/E	N/E	N/E

EXTINGUISHING MEDIA:

☒ FOAM ☒ CO, ☒ DRY CHEMICAL ☒ WATER SPRAY O OTHER (SPECIFY):

SPECIAL FIRE FIGHTING PROCEDURES:

If water is used, use a soft fog to avoid spreading contamination. Use self-contained breathing apparatus and full protective gear in confined areas of buildings. Contain water to prevent entry into water supplies.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Noxious vapors under high temperature conditions.

Salt.

7. HANDLING AND STORAGE

STORAGE TEMPERATURES:

☒ INDOOR D OUTDOOR D REFRIGERATED

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Store in area designated specifically for pesticides. Do not store near any material intended for use or consumption by humans or animals. Store in a cooi place. Do not store in direct sunlight. Do not contaminate water, food, or feed by storage, disposal, or by cleaning of equipment. Do not reuse empty container. Open dumping is prohibited.

OTHER PRECAUTIONS: N/A

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CHEMICAL NAME	EXPOSURE LIMITS
2,4-Dichlorophenoxyacetic acid	• OSHA PEL 10 mg/m' , ACGIH TIV - 20 mg/m'

**Trade information availab/e* as *provided in* 29 *CFR 1910.1200 (i)*

VALUES ARE B-HR. TIME-WEIGHTED-AVERAGES UNLESS OTHERWISE SPECIFIED

ENGINEERING CONTROLS: Local exhaust or general ventilation.

PERSONAL PROTECTIVE EQUIPMENT IPPEI

EYE/FACE PROTECTION: Safety glasses or goggles.

HAND/SKIN PROTECTION: long-sleeved shirt and long pants. Shoes plus socks. Chemical-resistant golves, such as neoprene or nitrile rubber or barrier iaminate, or viton. Mixers and loaders who do not use a mechanical system (pump and probe or spigot) to transfer this compound must wear coveralls or a chemical-resistant apron.

RESPIRATORY PROTECTION: Not normally required during use.

WORK PRACTICES: Minimize exposure. Wear appropriate PPE to prevent the probability of exposure and personal contact. Wash with soap and rinse thoroughly after handling material and before eating, drinking, smoking or using restroom facilities. Shower after each shift. Deluge safety shower and eye wash should be located in work area.

NOTE TO *END·USERS: The employee prolection recommendations on this MSDS may differ from those* all *the product label. For IIoIInal use* of *tIlis product, always refer to the personal protective equipment requirements on the product label.*

dark

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☒

N.T.P.

☒

FEDERAL HAZARDOUS WASTE INFORMATION: N/A'

, See 40 *CFR Part* 261 *and contact your local regulatory agency for additional information and requirements.*

PESTICIDE DISPOSAL:

Dispose of waste at an approved disposal facility.

CONTAINER DISPOSAL:

Completely empty container into application equipment. This dispose of empty container in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

14. TRANSPORT INFORMATION

REGULATED BY: X Domestic RoadlRail (DOT)
Export Water (IMO)
Air (ICAOIIATA)
Not regulated as a hazardous material by any mode of transportation.

DOMESTIC ROADIRAIL (DOn

For Package Sizes:	Greater than 30 gallons
Proper Shipping Name:	RQ,UN3082, Environmentally Hazardous sUbstance, liquid, n.o.s., (2,4-D, salts and esters), 9, PG III
ERG Number:	
Placard (>119 gallons):	Class 9 *3082*
Other Information:	NIA
Marine Pollutant? DYes	☒ No ChemIcal (5): NA

EXPORT WATER ()MO) *Contact Winfield Solutions LLC Environmental Health & Safety for additional Information.*

AIR ()CAOIiATAI *Contact Winfield Solutions LLC Environmental Health & Safety for additional* ***information.***

FREIGHT TARIFF DESCRIPTION

Rate As: NIA

15. REGULATORY INFORMATION

SARA HAZARD CATEGORY This product has been reviewed according to tha EPA Hazard Categories promulgated under Section 311 and 312 of the Superfund Amendments and Reauthorization Act Of 1986 (Sara Tille III) and is considered, under applicable definitions, to meet the following categories:

CERCLA/SARA: CHEMICAL .. 2,4-Dichlorophenoxyacetic acid CAS #:25168-26-7
TPQ: NIA
RQ: 100 lbs. (Equivalent amount *ot* this product would be 26 gallons)

SARA 313 INFORMATION This product contains the following substances SUbject to the reprint reqUirements of SARA Tille III, Section 313 and 40 CFR Part 372:

CHEMICAL NAME	CAS NUMBERS	CONCENTRATION
2,4-Dichlorophenoxyacetic acid	25168-26-7 & 2008-39-1	39.3%

16. OTHER INFORMATION

HMIS RATINGS		NFPA RATING	
HEALTH	2	HEALTH	2
FLAMMABILITY	1	FLAMMABILITY	1
REACTIVITY	0	REACTIVITY	0
PERSONAL PROTECTION	B	CORROSIVENESS	0

			Ceiling Limit
STEL	= Short Term Exposure Limit	NID	= Not Determined
If	= Respirable Fraction		Skin Notation
N/E	= Not Established	td	Total Dust

Revision:

Date: 09/18/07

Supersedes:

THIS INFORMATION IS FURNISHED WITHOUT WARRANTY, EXPRESSED OR IMPLIED, EXCEPT THAT IT IS ACCURATE TO THE BEST KNOWLEDGE OF WINFIELD SOLUTIONS LLC. THE DATA ON THIS SHEET RELATE ONLY TO THE SPECIFIC MATERIAL DESIGNATED HEREIN. WINFIELD SOLUTIONS LLC ASSUMES NO LEGAL RESPONSIBILITY FOR USE OR RELIANCE UPON THESE DATA.

Nufarm Americas

Riverdale® 2,4-0 L.V. 4 Ester

A SELECTIVE WEED KILLER

FOR CONTROL OF MANY BROADLEAF WEEnS AND BRUSH CONTROL iN CORN, SMALL GRAINS, SOYBEAN (PREPLANT ONLY) AND OTHER LISTED CROPS AND IN NON-CROP AREAS SUCH AS FENCE ROWS, LAWNS, PASTIJRES, AND RIGHTS-OF-WAY.

ACTIVE INGREDIENT:
Isooctyl (2-ethylhexyl) Ester of 2,4-Dichlorophenoxya"etie Acid· 67.2%
OTHER INGREDIENTS: 32.8%

TOTAL: 100.0%

COlltains Petroleum Distillates

Isomer Specific AOAC Method, Equivalent to:
Acid .... ,.. 44.6%, 3.84 Ibs.lgal.

EPA REG. NO.
EPA EST. NO.

MANUFACTURED BY
NUFARM AMERICAS INC.
BURR RIDGE, IL 60527·0866

IKEEP OUT OF REACH OF CHILDREN ICAUTlON/CAUCION

iSi usted no cntiende la etiqueta. busquc a alguien para que se la expliquc Il llsled en detallc. (If yoo nol understand the fi"d someone to ,xplai" i. 10 you in detail.)

SEE INSIDE BOOKLET FOR FIRST ADDITIONAL PRECAUTIONARY STATEMENTS

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300

For Medical Emergencles Only, Call (877) 325-1840

PRECAUTIONARY STATEMENTS

HAZARDS TO HIJMANS AND DOMF.STIC ANIMALS

CAUTION-CAUCION

Harmful if inhaled or absorhed through skin. inhalation of vapors or spray llIist, and conlael wilh skin, eyes and clolhillg. Rcmove clollling as soon as possible and shower. If container is over one gallon and than gallons. then engaged in open pouring of product also or apron. If this is five or more in do not opcn pour product from A lllcchmlical system (such as a probe and pump or spigot) must he for transferring the contents of this container. If contcnls of a non-refillable comaincr cmpticd, the probe must be rinsed before

NON-WPS TURF USES: Applicators olher handlers who handle this pesticide for any usc NOT by the Worker Protection Standard (40 Part 170}-in gcneral, only agricultural-plant uscs arc by WP$-must wear: long shirt, socks, shoes chemical-resistant gloves using this product. rinse gloves before removing, remove clothing and launder and promptly anJ thoroughly wash exposed skin soap and water. The maximum numbcr of broadcast 10 turf pcr treatment site is 2 per year.

NON-WPS USES: mixing, loading or applying Ihis product or repairing or cleaning equipment used with Ihis product, wear shield, goggles or safety and chemieal-resislant long socks and sllOes. It is recomIlIcnded safely include front, brow and temple protection. For aerial applicators in an enclosed cockpit and applying product from a has t'omp!ctc1y eyc protection is 1101 required. hands. and arms with soap and waler as soon as possible aftcr or applying this product Arter work, remove all dothing and shower using soap and Do [lot worn during the day's mixing and or application of this product wIlhout cleaning firs!. Clothing must be kept and washed separately from olher llOusehold .

WPS Pcrsonal Protective Equipmcnl-Some materials thaI are chemical-resistant tu this product are listed helow. If you want more follow the for category on an EPA category and other who this for ally use the Worker Prolection Standard (40 CFR Pari general, agricultural-plan I covered- shirt and long pants; chemical-resistant Banier Nilrile Rubber ≥ 14 mils. Neoprene Rubber ≥ 14 tllils and Viton ≥ 14 mils; shoes socks, and protective eyewear. Follow manufaclurer's for c1eaningfmaintaining Personal Equipment (PPE). If no such instructions for washablcs, usc detergent and hoI water. Keep and wash PPE separately from other laundry. each day of usc, clothing of PPE must not be reused until it been If lhis container is over one gallon and less than five who do 110t use a system as a probe and pump or spigot) to transfer contents of this container must wear coveralls or a apron in addition to the olher required PPE.

Controls Statements: If this container is tivc gallons or more in capacity, nol open pour prooucl from this A mechanical system (such as a and pump or spigot) must be used fur transferring the contents of Ihis container. If Ihe contents of a lion-refillable pesticide container emptied. the probe must he rinsed before removal. If the mechanical system is used in a manner that meets the requiremellts listed in the Wurker Protection (WPSj [40 CfR 170.240(d)(4-6)], handler PPE requirements be reduced or modified specified in the WPS.

handlers use enclosed cahs, or aircraft in a manner lhat listed in (WI'S) for cultural pesticides l40 CFR 170.240(d)14-6)]. the handler PPE requiremellts may be reduced or Illodified specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users Should:

- Wash hands before eating, drinking, chewing gum, using tobacco or the toilet.
- Remove clolhing immediately if gets inside. Then thoroughly and IJUt on clean clothing.
- Remove PPE aftcr handling product. Wash Ihe oulside of gloves before removing. As SOOll as possible, thoroughly and challgc into clean clothing.

FIRST AID

IF SWALLOWED:
- Call poison conlrol or treatment advice.
- Hlave person a glass of walcr jf able 10 swallow
- 00 not induce vomiting unless rold 10 do so by lhe poison control CClilcr or doClor.
- Do not give anything by mouth 10 an unconscious person.

IF
- Hold eye open and rinse slowly amI gently with water fur 15 1020
- Remove contact lenses, the first 5 minutes, then conlinue eye.
- Calla poison control or doclor for treatment advice

IF ON SKIN CLOTIIING:
- otT contaminated dOlhing.
- Rinse skin immediately with plenty of water for 15 to 20 lllInllles.
- Call a poison control center or doctor for trcallllcnt

1IOT LINE NUMBER

Have the or Wilh you when calling a poisOII doctor, or going for treatment.
YOII may also contact 1-877-325-1840 for emergency informalion.

NOTE TO PHYSICIAN

Contains pelroleum may cause aspiration pncUll1onia.

ENVIRONMENTAL HAZARDS

This product toxic 10 aquatic inverlebrates, Drin or aquatic invertebrates and lion-target plants. For terrestrial uses. lIot apply directly to water, or to areas surface present or to intertidal areas helow the mcan high from this produCl may injure susceplible plants in the Usc care to avoid conlact or drift to 2,4-D susceplible plants as cotlon, fmit trees, grapes. okra. ornamentals and lomatoes. Do nOI permit product 10 drift OlltO Ihem. Do not spray when the wind is blowing towards susceptible crops or ornamental plants. sprays and/or low spray pressure 10 min;mi7.e spray drift. Do not apply with hollow cone type insecticide or other nozzles that produce spray droplets. Spray drift can lessened by the spray boom as low as possible by wind vclocity is low, by thc of pressure of the tips. and by stopping all spraying when wind 6 to 7 miles per hour. On cropland and along do nnl exceed 20 Ilsi pressure. Do not apply when a tcmperallire air inversion If questions exisl pertaining 10 existence of an consult with local weather before making an applicalion. Do nol usc lhe same equipment for applying other materials to 2,4.D susceptlble crops as injury may result. It is bcst to usc a sprayer for application of and fungicides. and rinse spray equipmelltusing or and water or suitable chemical rinse lhoroughly before reuse for other spraying. Do not contaminate water when of Do nOI apply this product through any type of irrigation system. Do nol cOlllaminale domestic or irrigation However, waler may for watering turf immcdialcly after application. Do nol use in or near a greenhouse. of this product in soil may temporarily inhibit germination plant growlh.

Most cases of groundwater contaminalion phenoxy herbicides such as 2,4-0 have been associated with disposal sitcs.

Caulioll should be when 2.4-D sites to prevent contamination of groundwater supplies.

Use of closed mixing or transferring this will reduce the probability of spills. of the mixing/loading equiJlmenton all impervious pad 10 spills will help prevent (·onlamination. When

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an invert

Federal

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Rabbitbrush

Goosefoot

Beggartick

USE REQUIREMENTS

greenhouses,

Spanishneedle

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Klamathweed

Burhead

Knotweed

Lambsquarter

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Carpetweed

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Thistle

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Toadflax

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Nutgrass

Coyotebrush

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WEEDING

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NOTE:

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PREPARE

Sweet

Pre-plant—

Pre-emergent—

pints

Emergent—

Average Conditions— ½

be

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Pre-harvest—

I 102 pints

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*For Western States—Arizona, Idaho, Montana, Nevada, Oregon, Ulah. Washington and Wyoming

Use with recommcndeclamollnts of to make per acre applications. Usc lower rates of product for easily-killed weeds. on inbrcds. and when growing rapidly. Do not cultivate for about 2 weeks after trealment while com hrittle.

Pre-plant: To control emerged broadlenfweed seedlings or crops prior to com. apply 7 to 14 days before plunting. Do not use on light. sandy soil, or soil moisnlrc is for nOnI\al weed growth. Use high for control of susceptible weeds or cover crops such as alfalfa.

Pre-emergent: Apply product to emerged weeds from 3 to 5 days after planting but before corn emerges. Do not use on very light, sandy soils. Use the rates on heavy soils. Plant corn as deep as Product will not control weeds which not emerged.

Emergent: Apply in 5 to 30 gallons of water per ground application. I to 5 gallons ofwatcr by air, just com plants are breaking ground.

Post-emergent: Best rCsl11ts are when are small and com is 4 10 I inches tall. As soon as com is over 8 inches tall, use drop nozzles to spray olT com foliage as much direct spray over tops of weeds but not over the com. Do not apply from tasseling to Jough stage. If com is growing rapidly and soil is high. use ½ pint per acre to of crop damage. Delay cultivation for 8 to 10 days to prevent breakage. lle to temporary brittleness caused by 2,4-D. Application rates of up to I pint pe; ,lcre may he used to control hard-to-control weeds. However. the possibility of to the corn is

Do not usc with oil or olher Since the tolerance to 2.4·0 of hybrids consult your supplier, local Extension Agricuhural Experiment or University Weed Specialist

Pre-harvest: After the hard or denting stage, apply I to 2 pints in I to 5 gallons of water per acre by or 5 to 30 gallons of by ground equipment to suppress perennial weeds, weed seed production, and tall weeds such ns Dogbane,Jimsonweed, Sunflower. Vel\'etleaf and that intcrfere with harvesting. 11)e high rate be needed for tough weeds under stress.

SMALL GRAINS (barley, oals, wheat, rye), not undcrsccded with a legumc:

Rye-	Annual weeds	Average Conditions—½ to I pint IJry Conditions (Western States)—1 to 2 pints
	Perennial weeds—	Average Conditions—1 pint Dry Conditions (Western States)—1 ½ 102
	Pre-harvest	to 2 pints

Oats—spring—½ pillt fall—½ to ¾ pint

For aerial application all grain. it is to this in I more gallons of'vater per acre, and for application. a minimum of 10 gallons of water per acre. Make application in the spring when the grain is fully tillered or stooled (usually about 4 to 8 inches high), but before joillling. Do not spray before the tiller stage nor ii'om early boot to dough slage.

Use lower rate of product for easily-killed weeds. and higher rate for older and more tolerant weeds. Do not treat grains with and do not spray winter grains m the fali. To control large lhat will interfere with or to suppress perennial treatment can be applied when grain is in the dough stage. Higher rates may be necded to handle difficult weed problems in certain areas such as under dry conditions in Westem areas. However, do not usc possible crop will be For the high rales on harley spring wheat as well as lye and Winter wheat. consult Stale Agricultural Station or Extension Service weed specialist for recommendations or to fit local conditions.

F.or emergency weed control in wheat: Perennial broad1caf J pints per acre whell weeds are approaching bud stage. Do not in the boot to dough The 3 pinl per aere application produce injUIY to wheat. Balance the of your weed of crop damage. Where perennial arc scattered, spot treatmcnt is to minimize the extenl of crop injury. lower rate if small annual and biennial weeds are the major problem. Usc the higher if pcrellnial or annual and biennial weeds are present which in the hard-to-kill categories as by local experience.

The higher rates of grain injury and used only where the wced control problem justifies the grain damage risk. Do 110t apply this product to grain in Ihe seedling stage. For aerial on grain. this product in I 10 5 gallons of watcr per acre. For gro\lnd application. use a minimum of 5 gallons of water per acre.

Spring Seeded Oats: Use ½ pint acre with rccommended of water to give good coverage. Apply aftcr the fully tillered stage, except during the boot to dough stage.

Fall Seeded Oats (Soulhcrn): Apply ¼ to pints per recommended amount of water ailer full but boot stagc. Some difficult weeds Illay require the higher rates of ¾ to 1¼ pints pcr acre but injury may res\llt. Do not spray during or immediately following cold weather.

Pre·harvest Treatment: Apply 1 to 2 pints with recommcndcd amount of water per acre wben grains are in the hard dough slage to control large weeds that may interfere WIth harvesf Best results will be soil mOisture IS :mfficlent to cause weed growth.

NOTE: arc toleranl 2,4-D than wheal or nnd more likely to be injured.

Barlty and Wheal: Control of Onion

For improved conlrol of weeds including Wild Garlic and Wild Onion. apply 1 10 2 of product pcr acre. Since these rales may the crop, do not lllless possible crop damage is For the rates on barley and spring consult your local Stale Agricultural or Extension Service weed specialist for recommendations or suggestions to fit local conditions.

Conlrol of Wild Garlic Ill Stubble Grain lind Corn Fields:

Following the harvest of small groins and corn. Wild often produces new fall growth. should be sprayed with 4 to 6 pints of product in 10 tu 40 gallons water per acre. This is a useful practice as part of Wild Garlic control program. Do not any crop for thrcc months after treatmcnt.

SORGHUM (Milo): For Post-emergent control in average conditions. use ½ pint; dry conditions Statcs), use ½ to ¾ pints witlt volumc of 5 gallons of water by air or 5 to 20 gallons with ground equipment to make per acre applications. Apply to sorghum when crop is 5 to 15 inches high to top of canopy with secondary roots well established. If sorghum is taller than 8 inches. drop nozzles to kcep thc spray ofl"the folioge much as possible. Do not apply flowering or early dough stage. Rates of up to I pint per acre may be 10 control some hard-to-control wecds. However. the chance of crop is increased with the higher Hites. Do use wilh oil. Because temporary injUry occur if conditions of high tempcrature and high soil moisture usc lower rate. Varieties in tolerance to 2,4-D and some are quite known to be tolerant to Contact seed company or your Agricultural or Extension specialist for this infonnation.

RED I'OTATOES (Grown for fresh market): applications of product generally enhance red color. aid in storage retention of red color, improve skin increase tuber set, and improve tuber uniformity (fewer jumbos). Crop may depending on variety, stress factors. and conditions. Consull Extension Service and qualified advisors for local Varieties with dark red benefit less from treatment. Apply 2.3 fluid ounces of this product per acre in to 25 gallons of water ground or aerial equipment. The specific spray volumc sclected should be sufficient for good of plants. Make application when potatoes are in Ihe pre-bud stage (abollt 7 to 10 inches high) and make a second application abollt 10 to 14 days later. Do not exceed two per crop. Do not 45 days of applicltion. Uneven applieatil)n, or mixture other pesticides and additi\'es, may increase the risk of crop inJUry.

GRASS SEED CROPS: Apply I to 4 pims of prodnct in up to 30 gallons of water per acre by air or ground equipment in the spring or fall to control leaf weeds in grass grown for Do not apply from early boot to milk stage. only after leaf stage. using ¾ to I pinl acre to cOlllrol small seedling weeds. After die grass is well established. higher ratcs of up 10 4 pints per acre can be used to control hard-to-control or perennial weeds. For best results, when soil moisture is adequate for good growth Do nol use on Bent unless can be tolerated.

NO-TILL APrLICATION: This product may be uscd in the broadcast method with a boom or with direcl set 12" apart in 36" rows. When this produ'ct. at a rate of 13½ ounces in 10 gallons of water per acre. Mainlam uniform pressure applying.

ESTABUSHED rASTURES AND RANGELANDS: The rates of applicalion for and are per acre per applit'alion per Usc 1 to 4 of product in sutliciellt water to give good coverage to one acre depending on type of weeds and stage of growth. Use only on established stands of perennial grasses. Do not on alfalfa, bentgrass. clover, or other legumes. Dn not lise on newly seeded arcas ulllil grass is well established. Do not use from early boot to llllik stage when seed production is desired.

Billel'weed, Broomweed, Croton, Docks, Kochla, Marshelder, Musk thistle and Hrolldlcaf Use 4 to 4.2 pints of product in I to 30 gallons of per acre. rf wccds young and growing actively, 2 pints per acre will conlrol of some species. Deep-rooted perennial may treatments in rhe same year or in subsequent years.

Weed Control in Sprigged Coastal Bcrmudllgruss: Apply to 4 pints of this product in 20 to 100 of watcr pcr acre pre-emergence post-emergence.

Wild Garlic and Wild Onion Control: Apply 4 to 4.2 of product per acre makllg three applications. fall-spring-fall or spring-fall-spring. slarting in thc laic fall or early spring.

CROP RESIDUE MANAGEMENT SYSTEMS IN SOYBEANS (Preplant onl)')

GENERAL INFORMATION: nlis product is a herbicide lhat provides control of many emcrged susecptible anllual and pcrcnnial broadlcaf wecds. It may be applied prior planting soybeans to foliar bumdown annllal percnnial broadlcaf and certain broadleaf crops such as those listed on this labcl. This product should only be preplant to in situations such as reduced production systems. where emerged weeds are prcsem. Apply only aecording 10 the inSlructions given beluw. Do not use any tillage operations between application of this product and planting soybeans.

MIXING INSTRIICTIONS: Compllltible crop oil concentrates, agricultural factants and fluiJ for use on growing crops may increase the

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herbicidal effectiveness of on certain and be added to the spray tank. Read and follow all directions and precautions on this label and on all labels of adjuvants or with this product.

APPLICATION PROCEDURES: Apply using air or ground cquipment in sufficient gallonage to adeqnate of weeds, Use 2 or more of per acre in aerial equipment and II) or more gnllons of water per acre in cquipmellt.

APPLICATION TIMING AND USE

2,4-0 FORMULATION " SL 'D	MAXIMUM RATE (PER ACRE)	WHEN TO APPLY (DAYS PRIOR TO PLANTING SOYBEANS)
2,4-D L.V. 4 F.STER	I [liLt ' ' Iluid ounces) (0.5	NOT l.ESS 7 DA YS
	2 pints (33.3 a.e./acre)	NOT LESS THAN DA YS

WEEDS CONTROLLED

Alfalfa·	Mousetail
Bindwced·	Mllslard-wild
BiUcrcrcss-smalltlowercd	Onion-wild*
Bullnettle	Pennycress—field
Buttercup-smllllfiowcred	Peppergrass*
Carolina geraniullI	Purslane—common
Cinquefoil-common and rough	Ragweed—common
Clovcr-red·	Ragweed—giant
Cockiebur--cOlll11l0n	Shepherdspurse
Dandelion*	Sllartwccd-Pennsylvania·
Evening primrose·-cutleaf	Sowthistle-annual
Gal'lie-wild*	Speedwell
or	Thistle—Canada*
Ironweed	Thistle-bull
Lambsqullrters-common	Velvetleaf
Lettuce—prickly	Vetch-hairy·
Momingglot)'--anllual	Virginia copperleaf

*These species lire only partially controlled.

For weed control at time of weeds should be small, llctively growing and free of stress caused by in climatic conditions, diseases, or insect The response of individual weed species to this product is variable. Consult your \oeal county or State Agricultural Extension Service or crop advice.

APPLICATION RESTRICTIONS AND PRECAUTIONS

Important Notice-Unacceptable injury to soybeans planted fields treated with this product may occur. Whether or not soybean injurj occurs and the extent of the injury will on weather and rainfall) from herbicide applications uillil emergcnee and factors such as the amount of weed vegetation and previous crop residue present. Injury is more likely under cool rainy and where there is weed and crop residue present.

Do not 011 low organic sandy

Apply a of one applicatioll per growing regardless of the treat-

Livestock Grazing Restriction: Do nol feed hay, or fodder. Restrict livestock from grazing fields. Livestock should be from ing/grazing of treated cover crops.

In fields treated with Ihis product, plant soybean seed as deep as practical al least J.O il1dl deep. Adjust the planter. if neccssary. to cnsure that plantcd secd completely covered.

00 not apply this product prior to soybeans, if you nre not prepared to accept the results of soyhean injury, inclUding possible loss of stand and yield.

Do not replant fields treated with this product in the growing with crops other than those labeled for 2,4-D use.

SELECTIVE WEEDING IN NON-CROP AREAS

ORNAMENTAL TURF such as Cemeteries. Golf (Aprons, Fairways, Roughs and Tees). Parks, Sod

Use to 4.2 pillts of product in to gallons ofwaler to give to one acre on stands of perennial Usually 4 pinls per acre provides good weed conlTol average conditions. On turf, a maximum of 4.2 pinls of this product per acre per application per site. Treat when arc young and Do 1I0t apply to newly seeded grasses nntil well establishcd.

Use higher rate for hard-to-kill weeds. Usc bigher ratc when using higher volumc of water pCt acre, Do not specified dosages for any area. perennial weeds may in the season or in subsequent Spray when air temperature IS between 50' and 85'F Avoid applying during excessively dry or hot periods irrigation twatering) is used For results: (1) Do not apply fall is expected within 48 hours, nor should be for 48 following application. (2) Turf should not be mowed for I to 2 days lind aftcr application. no sooner Ihan] to 4 weeks after application of this

Adding oil, wetting or other to thc spray may be used to increase effectiveness on weeds but doing so may reduce selectivity to turf resultillg in turf damage. Maximum of weeds will by applying in spring and early fall when are active.IY growing. Do not use on golf gr.eens nor on or other hrolldleaf herbaceous ground Do usc on creeping grasses as bent and St. Augustine except for spot treating, nor on newly seeded turf until grass is well established.

GENERAL WEED CONTROL

(Airfitlds. Industrial Sites. Rights-of-Way, Roadsides, Vacant Lots, and

Usc 2 10 6 pints of product per acre. Apply when mosl annual broadlcafwccds arc still young and growing vigorously. Apply when perennial and biennial weeds 3rc actively and bud slage, but before flowering. For best results on Musk thistle and Tansy ragworL. treat in roselle stage, hefore bolting. A second Illlplicatioll is usually needed for best results 011 Bindweed, Nettle, alld 11listlc. Treat Garlic or Wild onion in early spring and in fall when they are young and growing actively. Mix 4 pints of this product in 2 or diesel oil, lhcn this mixture to 100 gallons of Apply 200 to 500 gallons of spray per acre, depcnding on the stand. The addition of a wetting agent (spray adjuvant) is 4 pinls per acre will give adequate Do not use on ground or creeping Legumes will usually be or require repeat applications. Do on seeded turfunlil grass is well established. Delay reseeding for 30 days.

Bitterweed, Broomweed, Croton, Docks, Kochia, Marshelder, Musk thistle lind Other Broadlell.f Weeds: Usc 4 to pints of this product in I to]0 gallons of water per acre. If weeds are young and growing actively. 2 pints per acre will control of some species. Deep-rooted perennial weeds may require repeated trcatmcllts in samc year or ill subscquent years.

Weed Control in Sprigged Coaslal Bermudagrass: Apply 2 to 4 pints of this product in 20 to 100 gallons of water per acre pre-emergence post-emergence.

Wild Garlic and Wild Onion Control: Appl)' 4 to 6 pints of product per acre making three applications, fall-spring-fall or spring-fall-spring, starting in the late fall or early spring.

CONTROL OF SOUTHERN WILD ROSE: Oll roadsides fencerows. use I gallon of lhis product 4 to 8 ounces of an agricultural sllrfactant per 100 gallons of water and thoroughly as foliage is well developed. Two or more treatments llIay be required. On rangeland. apply a maximum of 4.2 pints or this per acre application.

SPOT TREATMENT IN NON-CROP AREAS: To broadleafweeds in small areas with a hand or back pack sprayer, use 4 tluid oUllces of this product per galloll of water and spray to thoroughly wet all foliagc.

GRASSES IN CONSERVATION RESERVE PROGRAM AREAS: To control annual broadleaf weeds, apply when are actively growing. Use ½ to I pint per when weeds arc small; usc higher 011 older weeds. Excessive injury rcsult if to young grasses with fewer than 6 or Prior to grasses being well established. To cameol and perennial broadleaf weeds in apply al a of 2 to 4 pints per acre. Apply to growing weeds. Trcat whcn bicnnial'"wccds arc in the seedling to roscttc and before nower stalks becomc Treat perennial wecds in the bud to bloom

NOTE: Suggest at least 2 gallons of water per acre by and 5 gallons of water per acre by Do not or graze treated Conservation Reserve Do not apply to grasses in the boot to dough stage if grass seed productIOn IS desired.

FALLOW LAND: Use I 106 pints of this product in a rccOll1mcndedminimulll of 10 gallons of per for ground application and minimum of 2 for aerial application of water per acre on annual broadleaf weeds and up to 6 pinls pcr acrc on established pcr nnial species such Canada and Field hindweed. Use lower when annual weeds arc small (2" to]" lall) growing actively. Use the higher 011 older and plants. Spray musk and other sjJecies w in seedling to rosette stage, and before flower stalks arc initiated. 11le lower ratc can used in spring during stage. In fall or f1owt'r stalks developed, highest rate. Spray perennial weed in bud to bloom stage, or in vcgetative Do not treated for 2 weeks treatment or untIl weed tops arc dead. Do not plant any crop for] months or until chemical has soil.

BRUSH CONTROL

The maximum application rall" for forestry site I gallon 6 ounces per acre per applicatioll per S'itc.

WOODY PLANT CONTROL: To control woody plants susceptible to 2,4-0 such Alder, BliCkblllSh, Cherokee rose, Elderberry. Japanese honeysuckle, Sumac, creeper. Willow on non-crop areas such as rows, roadsides alld along dilehbanks, usc 2 to] quarts of product per aere in 30 to 100 gallons of Waler. Lower volume of water can be used unless applying through equipment Directa-Spra. Wobbler. Mini Wobbler. Spiromcter. brush 5 to 8 fcet tall spring is well developed. Wei all pans of plant thoroughly, including stem and to the pomt of runoff. Higher of up to 300 to 500 gallons of spray per may be the and 6 to 8 feet high. can be any time up to 3 weeks frost as long as soil sllnicient for growth of brush. Control will be less effective in mid-summer hot dry weather soilmoisnlre is deficient and plants arc nol growing. Oil or wetlllg agellt may be added to the spray If lleeded for increased etlcctiveness. Hard-to-eontrol species require rc-treatment next season. In general. it is to cut tall woody planls and growth whcn 2 to 4 feet tall.

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SHINNERY

per acre.
2

and

Note Below): Use 2 to 6 pints in 2 to 3 gallons of oil or in 3 to 5 gallons of oil-water emulsion For Rabbitbrush, the 6 pints is usually required. should be leafed out growing when treated. Retreatment lllay be needed.

Buckbrush. Challlisc, Coastal Sage, Co)"otebrush. Manzanita and certain other Chaparral Species: Use 2 to pints per in 5 10 10 gallons uf water. Olle gallon of fuel oil lllay be included in the for added Make by aircraft or grnundequipmcnlto oblain uniform spray coverage. For control. must he fnlly leaved out and growing actively when sprayed. Kelreatment lllay be needed. Consult State or local control for most effective rate. vohll11e and timing of spray application.

NOTE: May be applied to Pasturcs Rangelands al a maximum rate of 4.2 per per application per site.

USES IN FOREST MANAGEMENT

Conifer Release: For control of Alder. apply I½ to 2 quarts of product per acre in 8 to 25 gallons of water, and apply as a foliage Treat when ¾ of the brush allained full size and before new conifer growlh reaches 2" in This is usually early May and mid-June. Adjust treatmcnt date depending on stage of lind This mllY cause leader detormation on exposcd tirs, but they should overcome this during Ihe second year after spraying. TIl control susceptible species such *Ceanothus* spp.. Chinquapin, Madrone, Mllnzanila. Oak and Tanoak and to release Grand Iir, Hemlock, or apply 3 quarts of product per acre before IICW growth Oil Douglas fir is 2" 101lg. To cOlltrol Manzanita aud Ceanothus in Ponderosa pine, 3 quarts of produe-t before growth begins in spring.

To increasc pClformancc, add 2 to 4 quarts of diescl, fuel oil, kcrosenc, a approved .agricultural at recommended label rate,

After spruce, Jack pille. conifers, Red pine White cease growth and "harden off" (usually in mid-July), a spray of 1½ to 3 quarts of product in 8 to 25 gallons of water pcr acre may be applied air to control certain competing hardwood such Alder. Birch, Willow. Since this treatment may cause occasional conifer injury, not use if such injury cannot be tolerated. Consult your or EXlension Foresler or State herbicide specialist for to fit conditions.

Tree Injecfions (Pine Release): To control hardwoods, such as Elm. Hawlhom, Hickory. Maple, ill foresT

apply this product undiluted in a concentrate tree injector calibraterllo apply 1 mL pcr Space injections 2" aparl, edge to completely around the trec and close to thc The injeclor bit penetrate the inner bark. On hard-tn·kill such as Ash. Blue Red make injections 1 to 1½" apart, edge to edge. Treatment may be made at time of the year. For best results, injections should bc madc during growing season, May 15 to October 15. dilute mix I of lh,S producl in 19 gallons of waler. No Worker Protection worker entry resuictions or notillcation apply when this producl is directly injected into agricultural plants.

Dormant Applleallioll (other thaUIJine): For the conlrol of susceptible decir.luo\lS as Alder, Cheny poplar and Serviceberry, apply up to 3 quarts of product acre in sufficicnt diesel. fuel oil or kerosene foJ' good coverage.

be made by ground or air should be made before conifer bud break.

Pille Only: Make alJplieatioll while pine buds are still dormant. Apply 2 quarfs of product per acre in sufficiellt water for good by air or ground equipmcnt. Do not use this application unless sOllie injury is acceptable. Use of diesel. kerosene. or other oil, or addition of surfaClants to mix may cause ullacceptable pine injury.

Christmas Tree Plantations; For control of labeled broadleafwceds ill Douglas Fir Christmas trces, I to 2 pints of product pcr

Apply over Ihe top of Douglas Fir by ground or equipment only when the are donnant. prior to bud Do not the lop of pine or true firs (*Abies* spp.).

Sprays may be made to weeds in tree plantations ufaH conifer species, but the spray must nol contact tree foliage injury occur. Do not apply to weakened. diseased. or scedlings injury call occur. product may be mixed witl\ Alrazille for Christmas appliCQlion. (See Tank Mix section.)

Herbaceous Weed Control: To control ovcr-willtering susceplibl c such as False dandelion, Klamalh weed, Tansy apply I to 3 quarts of product in water for coverage. Make application at rates and timing above ifPincs arc present. For cOlltrol of Hazel brush and similar the Lake States area, apply 2 quarts of product per in 8 to 25 gallons of water when new shoot growth of Hazel is (usually mid-July).

Site Preparation: lAs BudblCak Sprav}-For control of Alder pTlor to plal1tmg seedlmgs. apply 2104 quarts of pel acre in 8 to 25 gallons of Alder hudbreak but before IS ¼ lull si7.e ApplicatlOll may be made by air or ground If dIesel, 011 or may be for water as diluent. (As Foliage Spray)-For control of Alder prinr to planting seedlings, Ilpply 2 quarts of product per acre in 8 to 2S gallons of waler, after most Alder leaves are full size. To increase 2104 quarts per acre of dieseL, fucl oil. kerosene, or a approved agricultural surfactant at recommended label may be added to the mixture.

TANK MIXES

and follow the label of each. tank mix product used for for use, geographic and olher restrictions.

lJsing this product and Buctril® ME4 for weed control on cereal grains (barley, rye and wheat): Ductril ME4 Broadlcaf wilt control some anllual weeds that arc resislant to lhis product and tank mixed with Ihis product Cor control on smull In cereal areas except Idaho. Oregon and Washington, ½ to I pinI of product ½ to ¾ pillt of Buctril ME4 per ilere. In Idaho, Oregon and use ½ to I pint of this plus ¾ to I pinI Buctril ME4 per acre. First mix this product in water. then add the ME4. Usc the higher rates largcr weeds or where weed growth is slow due to dry or cold weather. Apply before weeds are 6 inches high. Use to to 20 gallons total volnme per acre with ground or 5 to 10 gallons total spray volume air application. Use higher volume on larger

Using this product with Banvel SGF and Ally (or Express) or Diablo to provide more complete Kocblll. control; Offers quick bumdown. Provides aclivity with Ally to control later making easier reducing post-harvest eOlltrol needs. Controls weed spectrum while olfcring better control of Flixweed, Mustards, Russian thistle, Wild Controls large Allows for early treatment. Apply 8 ounces of Ihis product 0.1 ounce of Ally plus either 2 to 3 onnces of Diablo or 4 to 6 ounces of Banvel SGF per acre. The tank can be applied to Winter wheat and the four-leaf stage (tillering) to prior to jo·mt. It can be applied to spring wheal from the four-leaf through live-leaf Growers who want 10 rotate to a crop following wheat and arc cOllccntcd about carryover from Ally. can in the which allows crop rotation 60 days after application. The recommended of Express is ⅙ oz. per acre.

Using this product and Sencor as knockdown herbicides for no till: This Sencor OF alone or in combinalion with Dual, Surnan or Prowl be applied all pre-plant surface for the of broadleafweeds and in soybeans in minimum or no-till products. is reconUllt'lIded 30 days prior to planting. Apply at rate of 2 pillIS of tllIS product (I pound a.i.) per acre with labeled of Sencor. Where herbicide is used in tank mix, apply at the rates specified on that product's label.

Ihis product and Aalrex for weed control in Christmas tree and forest plantings: A mix of these two products be used to control weeds and aid in the establishment of young transplants of Austrian pine. rille. Blue Duuglas fir, fir. pine. Knobcone pine. Lodgcpole pille. Montere)' pinc, Nobel fir. Ponderosa pine, Scotch pine. Sitka Slash and White lir.

The mix should be between fall early spring, in Febnmry or March. while are still dormant, or soon after transplanting. Weeds should not be more than 1½" high. [t can be applied wilh either gtound or air equipment. have beell highly effective for or steep terrain. Uniform application is the to good weed control. Usc 20 to 40 gallons of water per acre ground a minimum of five gallons of waler applying by air. Be sure equipment is properly calibrated. All screens in the system and in-line suction strainers --should be 15 mesh or coarser. a with capacity to maintain a nozzle 1040 psi, and to keep the ill suspension in the l!Ink. If a nurse lank is llsed. keep the while transfer to fhe spray tank. Mix 2 to 4 4 Lor 2¾ 10 5 80W with I to 3 quarts of this product. The actual of Aatrex used should depend type. Soils high in organic matter require higher rates Ihan light to medium soils. Band application to Christmas amount to be applied per acre. The bund width ill inches. by the rows spacing in inches, times the rate per acre for broadcast treatment will equal the amount needed per for band trc"tment. when 4-foot over trees in rows S feel apart, apply I¼ to 2½ pounds of Aatrex acre. Please read Aatrcx label(s) additional instruclions.

this product and Turbo SEC in reduced-tillage or no-tiJI TIlis product may be applied in with Turbo SEC the cOI\tml of annual and broadleafwecds the supprcssionofemcrgcd perennial weeds whcn soybeans are directly seeded into a stale seedbed. cover crop or ill crop residues: Special poor weed control and/or crop injury may result If dtrectlOns are not tollowed. Do not usc a nb-type wheel on your no-till planter or injury lllay result. Apply at a rate of 2 pints of this product (I pound a.i.) per acre with labeled of Turbo SEC. Application is recommended 30 days prior to planting.

Using product and Poast as a burndown prior to planting soybealls; For broad spectrum post-emergence weed control, mix application of this product with Poast may be made for control of cmergcd broadleaf and weeds soybeans. Apply at a rate of I pint of this product (½ pound a.i.) per acre with labeled rates of Poast.

Using this product Scepter. Scepter 70 DG or Squadron in preplant ap. in no-till For broad spectrum weed a tank mix application OI this product with Scepter. Scepter 70 DG or Squadron herbicides lllay be made the control of broadleaf and weeds before planting Apply a rate of I pint of this product (½ pound *a.e.)* per up to 7 days prior to planting, or 2 pillts (I pound a.e.) per acre up to 30

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herbicides.

Non-Crop Areas:

Foliar

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in deliver

Use quarts ½ to 12 pints Tahoe 4E (oJ' 2 to 16 Tahoe 3A) per acre. Mix ⅔ to 2 quarts this product 1½ 10 3 Tahoe 4E (or 2 to 4 pints Tahoe 3A) in to make 100 gallons of spray. Apply a volume of I00 to 400 gallons oftolal spray per acre depending on and density of woody plants. Thoroughly wet all leaves, siems, root collars of plants to be controlled. Woody Plant Control Aerial Applicalion (Helicopter only); Use I 10 2 gallons of this product plus 3 to 4 quarts Tahoe 4E (or 4 10 6 Tahoe 3A) acre. Apply in a tolal spray volume of IOta 30 gallons per using drift control cquipment such as Microfoil boom or an cffcctive drill control such as La-Drift Spray Additive. Use the higher rales and volumes when plants are or under conditions

Using this product and Diablo Herbicide tank mixtures for Non-Crop Areas: Annual broadleaf weeds: Use 2 to 4 pints of this product plus ½ 10 I VI pints Diablo. For wider speetnnn control of weeds and woody plants, apply as a broadcast spray in enough to deliver 20 to 100 gallons spray per acre. Apply when broadleaf are growing. Use the higher treating or tall Perennial and Biennial Broadleaf Weeds: Usc 3 to 6 pints of this product plus 1/2 to 6 pints Diablo. Apply as a broadcast spray in enough water deliver 20 to lOll lotal spray per acre. Apply when broadleafwe"ds arc actively growing but prior to tlowcrinu. Use the lower for biennials less than 3 inches rosette Use the rates perenllial weeds or for biennial weeds past the 3 inch rosette Woody Plant Control Brondenst, Volume, Foliage or Aerial Application: Usc I 10 2 gallons of this prodoct plus 2 to 8 quarts Diablo. Apply a spray in enough water 10 to 100 gallons total spray pCI' acre or 'Ipply as a high volume foliage spray ill enough volume to thoroughly wei leaves. allli (100 to 400 gallons per acre) or ill enough water to deliver lotal volume of 10 to 30 gallons per acre using control equipment such as the Microfoil Boom or an effective drift agent such as Lo-Dnft Spray Additive. Usc higher and when plants or under drought conditions.

Using this product and aud Telar®: To improve control of some species, this producl may be tank mixed with Escort. Oust, and TelaI' herbicides for post-emergent weed control. Tank mixes have shown improved control where nrc prescnt.

NOTE: All intended mix combinations should be used only in recommended on the same broadleafweed species found on both labels.

For application other usc specifications. USc the most restricted limitations from labeling of both products.

STORAGE AND DISPOSAL

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

PESTICIIIE STORAGE: Always IISC original conlainer to store in secured 'varehouse or building. should be opened ill well venlilated areas. Keep COntainer tightly sealed when nOI IJI use. Do not cardboard cases than two lugh. Do not slore near open containers iot' fertilizcr, or other peslicides.

PESTICIDE DISPOSAL: Peslicide wastes are toxic. If container is damaged or if leaked, comain spillage. Absorb and clean up all spilled material wIlh granules or sand. Place in a closed labelcd cOlltainer for proper disposal. Improper disposal of pesticide. spray mixturcs, or rinsale is a vioilltion ofFcdcrallaw and ll1aycolltaminate If these wastes cannot tbe disposed of by use according to label contact your Pesticide l0r Control Agency, or the representative at nearest EPA Regional Office for guidance.

ICONTAINER DISPOSAL: Triple rinse (orequiyalenl). Then for recycling lor reconditioning. or puncture and of in a sanitary or japprovcd Slate and local procedures. Plastic containers arc also by incineration, or if allowed by Slate and localllilthorities, by burning. Ifbllrned'i Slay out of smoke.

Local conditions affect the lise of this chemical. Consult State Agricnllural Expcrimcnt or Extcnsion Service wced specialist for recommendatiolis for local weed problcms and fur information un possible lowcr dosages.

WARRANTY

Follow carefully. Timing and mcthod of npplicalion. and conditions. mixtun::s with otherehcmicals not specifically recommended. and other inOueneing factors in the \lse of product are heyond the control of the seller. Buyer assumes all risk of use, storage or handling of material in stricI accordance with given

(RV 062303)

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absorption may cause nausea, vomiting, abdominal pain, decreased blood pressure, muscle weakness, muscle spasms. May cause allergic reaction in sensitive individuals.

Ingestion: Harmfui if swallowed. May cause nausea, vomiting, abdominal pain, decreased blood pressure, muscle weakness, muscle spasms.

Inhalation: Harmful if inhaled. May cause symptoms similar to those from ingestion.

Medical Conditions Aggravated by Exposure: Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

See Section 11: TOXICOLOGICAL INFORMATION for more information.

Potential Environmental Effects:

This product is toxic to aquatic invertebrates. Drift or runoff may adversely affect aquatic Invertebrates and non-target plants.

See Section 12: ECOLOGICAL INFORMATION for more information.

3. COMPOSITION I INFORMATION ON INGREDIENTS

COMPONENT	CAS NO.	% BY WEIGHT
2,4-Dichlorophenoxyacetic Acid, isooctyl (2-ethylhexyl) ester	1928-43-4	87.3
Other Ingredients Including		12.7
Emulsifier (may contain)		
Naphthalene	91-20-3	

4. FIRST AID MEASURES

If Swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.
If In Eyes: Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
If on 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. Do not give anything by mouth to an **unconscious person.**
If Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambUlance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

5. FIRE FIGHTING MEASURES

Flash Point: 220'F (104'C) by tag closed cup method
Autoignition Temperature: Not determined Flammability Limits: Not determined

Extinguishing Media: Recommended for large fires: foam or water spray. Recommended for small fires: dry chemical or carbon dioxide.
Special Fire Fighting Procedures: Firefighters should wear NIOSHIMSHA approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.
Unusual Fire and Explosion Hazards: If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later.
Hazardous Decomposition Materials (Under Fire Conditions): May produce gases such as hydrogen chloride and oxides of carbon and nitrogen.

National Fire Protection Association /NFPAl Hazard Rating:
Rating for this product: Health: 2 Flammability: 1 Reactivity: 0
Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.
Environmental Precautions: Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.
Methods for Containment: Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.
Methods for Clean-Up and Disposal: Pump any free liquid into an appropriate closed container. Collect washings for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.
Other Information: Spills may be reportable to the National Response Center (800-424-8802) and to stale *andlor* local agencies.

7. HANDLING AND STORAGE

Handling:
Avoid inhalation of vapors or spray mist. and contact with skin, eyes and clothing. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately, if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove Personal

air-purifying respirator with cartridges/canisters approved for use against pesticides.

General Hygiene Considerations: Personal hygiene is an important work practice exposure control measure and the following general measures shouid be taken when working with or handling this material: 1) Do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored. 2) Wash hands and face carefUlly before eating, drinking, using tobacco, applying cosmetics or using the toilet.

Exposure Guidelines:

	OSHA		ACGIH		
Component	TWA	STEL	TWA	STEL	Unit
2,4-02EHE	10"	NE	10"	NE	mo/m'
Naohthalene	10	NE	10 IS	15 ISkin)	oom

"Based on adopted limit for 2,4-0

NE = Not Established

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Dark amber liquid with typical phenolic odor

Boiling Point:	Not available	SolUbility in Water:	Emulsifiable in water
Density:	9.48 pounds/gallon	Specific GraVity:	1.138@20'C
Evaporation Rate:	Not determined	Density:	Not available
Freezing Point:	Not available	Vapor Pressure:	Not available
pH:	4.4	Viscosity:	Not available

Note: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

10. STABILITY AND REACTIVITY

Chemical Stability: This material is stable under normal handling and storage conditions.
Conditions to Avoid: Excessive heat. Do not store near heat or flame.
Incompatible Materials: Strong oxidizing agents: bases and acids.
Hazardous Decomposition Products: Under flre conditions may produce gases such as hydrogen Chloride and oxides of carbon and nitrogen.
Hazardous Reactions: Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicological Data:
Data from iaboratory studies conducted on a similar, but not identical, formuiation:
Oral: Rat LD_{50}: 1,380 *mg/kg*
Dermal: Rabbit LD_{50}: >2,020 *mg/kg*
Inhalation: Rat 4-hr LC_{50}: >5.12 mgll
Eye Irritation: Rabbit: Minimally irritating
Skin Irritation: Rabbit: Slightly irritating

Subchronic (Target Organ) Effects: Repeated overexposure to phenoxy herbicides may cause effects to liver, kidneys, blood chemistry, and gross motor function. Rare cases of peripheral nerve damage have been reported, but extensive animal studies have failed to substantiate these observations, even at high doses for prolonged periods.
Carcinogenicity / Chronic Health Effects: Prolonged overexposure to phenoxy herbicides can cause liver, kidney and muscle damage. The International Agency for Research on Cancer (IARC) lists exposure to chlorophenoxy herbicides as a class 28 carcinogen, the category for iimited evidence for carcinogenicity in humans. However, more current 2,4-D lifetime feeding studies in rats and mice did not show carcinogenic potential. The U.S. EPA has given 2,4-0 a Class D classification (not classifiabie as to human carcinogenicity). The emulsifier component may contain naphthalene, which is listed by IARC as a class 28 and the U.S. National Toxicology Program as reasonably anticipated to be a human **carcinogen.**
Reproductive Toxicity: No impairment of reproductive function attributable to 2,4-D have been noted in laboratory animal studies.
Developmental Toxicity: Studies in laboratory animals with 2,4-D have shown decreased fetal body weights and delayed development in the offspring at doses toxic to mother animals
Genotoxicity: There have been some positive and some negative stUdies, but the weight of evidence is that 2,4-D is not mutagenic.

Assessment Carcinogenicity:
This product contains substances that are considered to be probable or suspected human carcinogens as follows:

	Regulatorv Agencv Listing As Carcinogen			
Component	ACGIH	IARC	NTP	OSHA
Chlorophenoxv Herbicides	No	28	No	No
Naphthalene	No	28	**Yes'''**	No

"Reasonably anticipated to be a human carcinogen

See Section 2: HAZARDS IDENTIFICATION for more information.

12. ECOLOGICAL INFORMATION

Ecotoxicitv:
Data on 2,4-D 2EHE:

96-hour LC_{50} Bluegill:	*>5 mgll*	Bobwhite Quail Oral LD_{50}:	*>5,620 mglkg*
96-hour LC_{50} Rainbow Trout:	7.2 mgll	Mailard Duck a-day Dietary LC_{50}:	>5,620 ppm
48-hour EC_{50} Daphnia:	*>5 mgll*		

Environmental Fate:
In laboratory and field studies, 2,4-D 2-ethylhexyi ester rapidly de-esterfied to parent acid in the environment. The typical half-life of the resultant 2,4-D acid ranged from a few days to a few weeks.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:
Pesticide wastes are toxic. If container is damaged or if pesticide has leaked, contain ail spillage. Absorb and clean up ail spilled material with granules or sand. Place in a closed labeled container for proper disposal. Improper disposal of excess pesticide, spray mixtures, 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 Handling and Disposal:
Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfiil, or by other procedures approved by State and iocal authorities. Plastic containers are also disposable by incineration, or, If ailowed by State and local authorities, by burning. If burned, stay out of smoke.

14. TRANSPORTATION INFORMATION

Foilow the precautions indicated in Section 7: HANDLING AND STORAGE of this MSDS.

DOT
< 30 gallons per completed package
Non Regulated - See 49 CFR 173.132(b)(3) & 172.101 Appendix A

≥ 30 galions per completed package
RQ, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(2,4 DICHLOROPHENOXYACETIC ESTER), 9, UN 3082, iII

See49 CFR 172.101 Appendix A

IMDG
Non Regulated - See IMDG 2.6.2.1.3

IATA
Non Regulated - See IATA 3.6.1.5.3

15. REGULATORY INFORMATION

U.S. Federal Regulations:

TSCA Inventory: This product is exempted from TSCA because it is solely for FIFRA regulated use.

SARA Hazard Notification/Reporting:
Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):
Immediate and Delayed

Section 313 Toxic Chemlcal(s):
2-ethylhexyl ester (CAS No. 1928-43-4)- 87.3% by weighlin product
Naphthalene (CAS No. 91-20-3), < 0.14% by weight in product
Reportable Quantity (RQ) under U.S, CERCLA:
Acetic Acid, (2,4-Dichlorophenoxy)- (CAS No. 94-75-7) 100 pounds
Naphthalene (CAS No. 91-20-3) 100 pounds

RCRA Waste Code:
Acetic Acid, (2,4-Dichlorophenoxy)- (CAS No. 94-75-7) U240
Naphthalene (CAS No. 91-20-3) U165

State Information:
Other state regulations may apply. Check individual state requirements.

California Proposition 65: WARNING. This product contains chemicals known to the State of California to cause cancer or birth defects or other reproductive harm.

16. OTHER INFORMATION

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA·ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This MSDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof Nufarm Americas Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Nufarm Americas Inc. be responsible for damages of any nature whatsoever resulting from the use or of reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.

BASF

SPECIMEN

ARSENAL®

For the control of undesirable vegetation grass pasture, rangeland and non and areas such as railroad, utility, pipeline and highway rights-of-way, utility plant sites, petrole k farms, pumping storage areas, nonirrigation ditchbanks and other s nance of wildlife openings.

KEEP OUT OF

CAUTION/PRECAUCIÓN

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

In case of an emergency endangering life or property involving this product, call day or night, 1-800-832-HELP (4357).

See next page for additional First Aid, **Precautionary Statements, Directions For Use, Conditions of Sale** and **Warranty**, and state-specific crop and/or use site restrictions.

Net Contents:

BASF Corporation,
Agricultural Products
26 Davis Drive,
Research Triangle Park, NC 27709

FIRST AID

If on skin	• 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.
If in eyes	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If inhaled	• Move person to fresh air. • If person Is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further 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. You may also contact BASF Corporation for emergency medical treatment information: 1-800-832-HELP (4357).

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS
CAUTION

Avoid contact with skin, eyes or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

Personal Protective Equipment (PPE)
Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical-resistant category selection chart.

Applicators and other handlers must wear:
- Long-sleeved shirt and long pants.
- Chemical-resistant gloves made of any waterproof material.
- Shoes plus socks.

Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations:

Users Should:
- Wash hands before eating, Chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

PHYSICAL AND CHEMICAL HAZARDS

Spray solutions of Arsenal" herbicide should be mixed, stored and applied only in stainless steel, tiberglass, plastic and plastic-lined steel containers,
DO NOT mix, store or apply Arsenal or spray solutions of Arsenal in unlined steel (except stainless steel) containers or spray tanks.

ENVIRONMENTAL HAZARDS

DO NOT apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. DO NOT contaminate water when disposing of equipment washwaters or rinsate.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.
Arsenal should be used only in accordance with recommendations on the leaflet label attached to the container. Keep containers closed to avoid spills and contamination.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its iabeling 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 agCicultural 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.
- Shoes plus socks.
- Chemical-resistant gloves made of any waterproof material.

0°

using ground equipment or aerial equipment. In addition, Arsenal may also be used for stump and cut stem treatments (see specific directions).

Herbicidal Activity: Arsenal is readily absorbed through leaves, stems, and roots and is transiocated rapidly throughout the plant, with accumulation in the meristematic regions. Treated plants stop growing soon after spray application. Chlorosis appears first in the newest leaves, and necrosis spreads from this point. In perennials, the herbicide is translocated into, and kills, underground storage organs which prevents regrowth. Chlorosis and tissue necrosis may not be apparent in some plant species until two weeks after application. Complete kill of piants may not occur for several weeks. Applications of Arsenal are rainfast one hour after treatment.

PRECAUTIONS FOR AVOIDING INJURY TO NONTARGET PLANTS

Untreated trees can occasionally be affected by root uptake of Arsenal through movement into the top soil. Injury or loss ot desirable trees or other plants may result if Arsenal is applied on or near desirable trees or other plants, on areas where their roots extend. or in locations where the treated soil may be washed or moved into tact with their roots.

apply

coverage.

- **Nozzle Orientation -** Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is recommended practice. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type -** Use a nozzle type that is designed for the intended application. With most noule types, narrower spray angles produce larger droplets. Consider using low-drift noules. Solid-stream nozzles oriented straight back produce the largest droplets and the lowest drift. **DO NOT** use noules producing a mist droplet spray.

Application Height: Making applications at the lowest possible height (aircraft, ground-driven spray boom) that is safe and practical 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 application equipment (e.g. aircraft, ground) upwind. Swath adjustment distance should increase with increasing drift potential (higher Wind, smaller droplets, etc.).

Wind: Drift potential is lowest between wind speeds of 3-10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 3 mph due to variable wind direction and high inversion potential.
NOTE: Local terrain 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: Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud, which can move in unpredictable directions due to the light variable winds common during inversions. Temperatute 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 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 rapidiy dissipates indicates good vertical air mixing.

Wind Erosion: Avoid treating powdery, dry or light sandy soils when conditions are favorable for wind erosion. Under these conditions, the soli surface should first be settled by rainfall or irrigation.

Aerial Application Methods and Equipment: Use 2 or more gallons of water per aCre. The actual minimum spray volume per acre is determined by the spray equipment used. Use adequate spray volume to provide accurate and distribution of spray particles over the treated area and to avoid spray drift.

Managing Spray Drift from Aerial Applications: Applicators must follow these requirements to avoid off-target drift movement: 1) boom length - the distance of

nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees, and 3) application height without compromising aircraft safety, applications should made at a height of 10 feet or less above the crop canopy or tallest plants. Applicators must follow the most restrictive use cautions to avoid drift hazards, including those found in this labeling, as well as applicable state and local regulations and ordinances.

Ground Application [Broadcast): Use 5 or more gallons of water per acre. The actual minimum spray volume per acre is determined by the spray equipment used. Use adequate spray volume to provide accurate and uniform distribution of spray particles over the treated area and to avoid spray drift.

ADJUVANTS

Postemergence applications of Arsena'· herbicide require the addition of a spray adjuvant for optimum herbicide performance.

Nonionic SUrfactants: Use a nonionic surfactant at the rate 0.25% v/v or higher (see manufacturer's label) of the spray solution (0.25% v/v is equivalent to 1 quart in 100 gallons). For best results, select a nonionic surfactant with an HLB (hydrophilic to lipophilic balance) ratio between 12 and 17 with at least 70% surfactant in the formulated product (alcohols, fatty acids, oils, ethylene glycol or diethylene glycol should not be considered as surfactants to meet the above requirements).

Methylated Seed Oils or Vegetable Oil Concentrates: Instead of a surfactant, a methylated seed oil or vegetable-based seed oil concentrate may be used at the rate of 1.5 to 2 pints per acre. When using spray volumes greater than 30 gallons per acre, methylated seed oil or vegetable-based seed oil concentrates should be mixed at a rate of 1% of the total spray volume, or alternatively use a nonionic surfactant as described above. Research indicates that these oils may aid in Arsenal deposition and uptake by plants under moisture or temperature stress.

Silicone-Based SUrfactants: See manufacturer's label for specific rate recommendations. Silicone-based surfactants may reduce the surface tension of the spray droplet allowing greater spreading on the leaf surface as compared to conventional nonionic surfactants. However, some silicone-based surfactants may dry too quickly, iimiting herbicide uptake.

Fertilizer/Surfactant Blends: Nitrogen-based liquid fertilizers, such as 28%N, 32%N, 10-34-0 or ammonium sulfate, may be added at the rate of 2 to 3 pints per acre in combination with the recommended rate of nonionic surfactant, methylated seed oil or vegetable/seed oil concentrate. The use of fertilizers in a tank mix without a nonionic surfactant, methylated seed oil or vegetable/seed oil concentrate is not recommended.

BRUSH CONTROL

AERIAL APPLICATIONS:
All precautions should be taken to minimize or eliminate spray drift. Fixed wing aircraft and helicopters can be used to apply Arsenal. However, DO NOT make applications by fixed wing aircraft unless appropriate buffer zones can be maintained to prevent spray drift out of the target area or, when treating open tracts of land, spray drift as a result of fixed wing aircraft application can be tolerated. Aerial equipment designed to minimize spray drift, such as a helicopter equipped with a Microfoil-boom, Thru-Valve-boom or raindrop nOZZles, must be used and calibrated. Except when applying with a Microfoil boom, a drift control agent may be added at the recommended label rate. To avoid drift, applications should not be made during inversion conditions, when winds are gusty, or any other conditions which allow drift. Side trimming is not recommended with Arsenal unless death of treated tree can be tolerated.

Uniformly apply the recommended amount of Arsenal in 5 to 30 gallons of water per acre; include in the spray solution a nonionic surfactant or methylated seed oil or manufacturer's label rate of a silicone-based surfactant (see the ADJUVANT section of this label for specific recommendations). A foam-reducing agent may be added at the recommended label rate, if needed.

IMPORTANT: Thoroughly clean application equipment, including landing gear, immediately after use of this product. Prolonged exposure of this product to uncoated steel (except stainless steel) surfaces may result in corrosion and failure of the exposed part. The maintenance of an organic coating (paint) may corrosion.

GROUND APPLICATIONS:
IMPORTANT: To minimize spray drift, select proper nozzles to avoid spraying a fine mist. Use pressures less than 50 psi, and DO NOT spray under gusty or windy conditions. Add a foam-reducing agent, if needed, and a spray pattern indicator, if desired, at the recommended labei rates. Clean application equipment after using this product by thoroughly flushing with water.

When making applications to rights-of-way corridors where desirable tree roots may extend, use 1 to 3 pints of Arsenal per acre in combination with recommended tank mixes. It is not recommended to use rates higher than 3 pints per acre in these situations, as injury or death of desirable trees may occur when their roots extend into treated zones.

Side Trimming:
DO NOT side trim with Arsenal unless severe injury or death of the treated tree can be tolerated. Arsenal is readily translocated and can result in death of the entire tree.

Low Volume:
Use equipment calibrated to deliver 5 to 20 gallons of spray solution per acre. To prepare the spray soiution, thoroughly mix in water 0.5 to 5% Arsenal plus surfactant

Appendix 8 - Arsenal Label

(see the **ADJUVANT** section of this label for specific recommendations). A foam-reducing agent may be applied at the recommended label rate, if needed. For control of difficult brush species (see **WEEDS CONTROLLED** section for relative susceptibility of weed species), use the higher concentrations of herbicide and/or spray volumes, but **DO NOT** apply more than 6 pints of **Arsenal" herbicide** per acre. Excessive wetting of foliage is not recommended. See the mixing guide beiow for some suggested volumes **of Arsenal** and water.

elm, locust, and pine	0.5 - 1.0% by volume	**Accord** at 2 - 3% by volume plus surfactant
Mixed hardwoods with locust and pine but no elm	0.5 - 1.0% by volume	**Krenite"** at 2 - 5% by volume plus surfactant
Mixed hardwoods with locust and elm but no pine	0.5 - 1.0% by volume	**Escort"** at 2 oziAcre or 2.3 grams/gallon plus surfactant

"Tank mixes with 2,4-D or products containing 2,4-D have resulted in reduced efficacy of **Arsenal.**

MIXING CHART

% Solution	Amount Arsenal per Gallon of Mix (oz)	Amount Arsenal per 4-Gallon Backpack (oz)
0.5%	0.6	2.6
1.0%	1.3	5.1
2.0%	2.6	10.2
3.0%	3.8	15.4
5.0%	6.4	25.6

Appendix B - Arsenal Label

Application Tips: For low volume, select proper nozzles to avoid over-application. Proper application is critical to ensure desirable results. Best results are achieved when the spray covers the crown and approximately 70 percent of the plant. The use of an even flat fan tip with a spray angle of 40 degrees or less will aid in proper deposition.

Recommended tip sizes include 4004E or 1504E. For a straight stream and cone pattern, adjustable cone nozzles, such as 5500 X3 or 5500 X4, may be used. Attaching a roll-over valve onto a Spraying Systems Model 30 gunjet or other similar spray guns allows for the use of both a flat fan and cone tips on the same gun.

Proper Spray Pattern: Moisten but DO NOT drench target vegetation causing spray solution to run off.

Low Volume with Backpacks:
For brush up to 4-feet tall, spray down on the crown covering crown and penetrating approximately 70% of the plant.

For brush 4- to 8-feet tall, sWipe the sides of target vegetation by directing spray to at least two sides of the plant in smooth vertical motions from the crown to the bottom. Make sure to cover the crown whenever possible.

For brush over 8-leet tall, lace sides of the brush by directing spray to at least two sides of the target in smooth zigzag motions from crown to bottom.

Low Volume with Hydraulic Handgun Application Equipment:
Use. same technique as described above for Low Volume with Backpacks.

For broadcast applications, simulate a gentle rain near the top of target vegetation allowing spray to contact the crown and penetrate the target foliage without falling to the understory. Herbicide spray solution which contacts the understory may result in severe injury or death of plants in the understory.

SPRAY SOLUTION MIXING GUIDE FOR LOW-VOLUME APPLICATIONS

Amount Of Spray Solution Being Prepared (gallons)	**Desired Concentration** (fluid volume)				
	0.5%	0.75%	**1%**	1.5%	5%
	(amount of **Arsenal®** herbicide to use)				
1	0.6 oz	0.90z	1.30z	1.90z	6.50z
3	1.90z	2.80z	3.8 oz	5.80z	1.2 pints
4	2.50z	3.80z	5.1 oz	7,.7oz	1.6 pints
5	3.20z	4.80z	6.5 oz	9.60z	2 pints
50	2 pints	3 pints	4 pints	6 pints	10 quarts
100	4 pints	6 pints	8 pints	6 quarts	5 gallons

2 tablespoons = 1 fluid ounce

High Volumes:

Escort®, Telar®,

ounces of Arsenal with one gallon of water. If temperatures are such that freezing of the spray mixture may occur, antifreeze (ethylene glycol) may be used according to manufacturer's label to prevent freezing. The use of a surfactant or penetrating agent may improve uptake through partially callused cambiums. To prepare a concentrated solution, mix 2 quarts of Arsenal with no more than 1 quart of water.

APPLICATION WITH DILUTE SOLUTIONS:
For cut stump treatments: Spray or brush the solution onto the cambium area of the freshly cut stump surface. Insure that the solution thoroughly wets the entire cambium area (the wood next to the bark of the stump).

For tree-injection treatments: Using standard injection equipment, appiy 1 milliliter of soiution at each injection site around the tree with no more than one-inch intervals between cut edges. Insure that the injector completely penetrates the bark at each injection site.

For frill or girdle treatments: Using a hatchet, machete, or similar device, make cuts through the bark at intervals around the tree with no more than two-inch intervals between cut edges. Spray or brush the solution into each cut untii thoroughly wet

APPLICATION WITH CONCENTRATED SOLUTIONS:
For tree injection treatments: Using standard injection equipment, apply 1 milliliter of solution at each injection site. Make at least one injection cut for every 3 inches of Diameter at Breast Height (DBH) on the target tree. For example, a 3-inch DBH tree will receive 1 injection cut, and a 6-inch DBH tree will receive 2 injection cuts. On trees requiring more than one injection site, place the injection cuts at approximately equal intervals around the tree.

For frill or girdle treatments: Using a hatchet, machete, or similar device, make cuts through the bark at approximately equal intervals around the tree. Make at least one cut for every 3 inches of DBH on the target tree, For example, a 3-inch DBH tree will receive 1 cut, and a 6-inch DBH tree will receive 2 cuts, Spray or brush the solution into each cut until thoroughly wet.
NOTE: Injury may occur to desirable woody plants if the shoots extend from the same root system or their root systems are grafted to those of the treated tree.

FOR CONTROL OF UNDESIRABLE WEEDS UNDER PAVED SURFACES

Arsenal" herbicide can be used under asphalt, pond liners and other paved areas ONLY in industrial sites or where the pavement has a suitable barrier along the perimeter that prevents encroachment of roots of desirable plants.

Arsenal should be used only where the area to be treated has been prepared according to good construction practices. If rhizomes, stolons, tubers or other vegetative plant parts are present in the site, they should be removed by scalping with a grader blade to a depth sufficient to insure their complete removal.

IMPORTANT: Paving should follow Arsenal applications as soon as possible. DO NOT apply where the chemical may contact the roots of desirable trees or other plants,

The product is not recommended for use under pavement on residential properties such as driveways or parking lots, nor is it recommended for use in recreational areas such as under bike or jogging paths, golf cart paths, or tennis courts, or where landscape plantings could be anticipated. InjUry or death of desirable plants may result if this product is applied where roots are present or where they may extend Into the treated area. Roots of trees and shrubs may extend a considerable distance beyond the branch extremities or so-called drip line,

APPLICATION DIRECTIONS FOR PAVED SURFACES:
Applications should be made to the soil surface only When final grade is established. DO NOT move soil following Arsenal application,

Apply Arsenal in sufficient water (at least 100 gal per acre) to ensure thorough and uniform wetting of the soil surface, including the shoulder areas. Add Arsenal at a rate of 6 pints per acre (2.2 fluid ounce per 1000 square feet) to clean water in the spray tank during the filling operation. Agitate before spraying.

If the soil is not moist prior to treatment, incorporation of Arsenal is needed for herbicide activation. Arsenal can be incorporated into the soil to a depth of 4 to 6 inches using a rototiller or disc. Rainfall or irrigation of 1 inch will also provide uniform incorporation. DO NOT allow treated soil to wash or move into untreated areas.

FOR CONTROL OF UNDESIRABLE WEEDS IN UNIMPROVED BERMUDAGRASS AND BAHIAGRASS

Arsenal may be used on unimproved bermudagrass and bahiagrass turf such as roadsides, utility rights-of-way and other noncropland industrial sites. The application of Arsenal on established common and coastal bermudagrass and bahiagrass provides control of labeled broadleaf and grass weeds. Competition from these weeds is eliminated, releasing the bermudagrass and bahiagrass. Treatment of bermudagrass with Arsenal results in a compacted growth habit and seedhead inhibition.

Uniformly apply with properly calibrated ground equipment using at least 10 gallons of water per acre with a spray pressure 20 to 50 psi.

IMPORTANT: Temporary yellOWing of grass may occur when treatment is made after growth commences. DO NOT add surfactant in excess of the recommended rate (1 oz per 25 gallons of spray solution). DO NOT APPLY to grass during its first growing season, DO NOT APPLY to grass that is under stress from drought, disease, insects, or other causes.

DOSAGE RATES AND TIMING:
Bermudagrass - Apply Arsenal at 6 to 12 oz per acre when the bermudagrass is dormant. Apply Arsenal at 6 to 8 oz per acre after the bermudagrass has reached full green-up, Applications made during green-up will delay green-up. Include a surfactant in the spray solution (see IMPORTANT statement above).

For additional preemergence control of annual grasses and small seeded broadlea! weeds, add Pendulum" herbicide at the rate of 3.3 to 6.6 lbs per acre. Consult the Pendulum label for weeds controlled and for other use directions and precautions.

For control of Johnsongrass 1n bermudagrass turf, apply Arsenal at 8 oz per acre plus Roundup" herbicide at 12 oz per acre plus surfactant. For additional control of broadleaves and vines, Garlon" 3A may be added to the above mix at the rate of 1-2 pints per acre, Observe ail precautions and restrictions on the Garlon 3A and Roundup labels.

Bahiagrass - Apply Arsenal at 4 to 8 oz per acre when the bahiagrass is dormant or after the grass has initiated green-up but has not exceeded 25% green-up. Include in the spray solution a surfactant (see ADJUVANT section for specific recommendations on sUrfactants),

WEEDS CONTROLLED:

Bedstraw *(Galium* spp.)
Bishopweed *(Pti/imnium capii/aeeum)*
Buttercup *(Ranunculus paNiflorus)*
Carolina geranium *(Geranium carolinianum)*
Fescue *(Festuea* spp.)
Foxtail *(Setaria* spp,)
Little barley *(Hordeum pusillum)*
Seedling Johnsongrass *(Sorghum ha/epense)*
White clover *(Trifolium repens)*
Wild carrot *(Daucus earota)*
Yellow woodsorrel

to desirable turt, Arsenal may result in temporary turt damage and/or discoloration. Effects to the desirable turf may vary with environmental conditions. For optimum performance, application should be made prior to culm elongation. Applications may be made before or after mowing. If applied prior to mowing, allow at least three days of active growth before mowing. If fallowing a mowing, allow sufficient time for the grasses to recover before applying this product or may be amplified.

DO NOT APPLY to turf under stress (drought, cold, insect damaged, etc.) or severe injury or death may occur.

Bermudagrass Apply Arsenal at 6 to 8 oz per acre from early green-up to prior to seed head initiation. DO NOT add a surfactant for this application.

Cool Season Unimproved Turf· Apply Arsenal at 2 oz per acre plus 0,25% nonionic surfactant. For increased suppression, Arsenal may be tank mixed with such products as Campaign- (24 oz per acre) or Embark- (8 oz per acre).

Tank mixes may increase injury to desired turt. Consult each product label for recommended turf species and other use directions and precautions. Tank mixes with 2,4-D or products containing 2,4-D may decrease the effectiveness of Arsenal.

TOTAL VEGETATION CONTROL WHERE BAREGROUND IS DESIRED

Arsenal is an effective herbicide for preemergence or postemergence control of many annual and perennial broadleaf and grass weeds where bareground is desired. Arsenal is particularly effective on hard-to-control perennial grasses, Arsenal at '.5 to 6 pints per acre can be used alone Or in tank mix with Roundup·, Finale'", MSMA, Oust·, Karmex·, Pendulum-, simazine, Banvel-, Vanquish·, or herbicides. The degree and duration of control are dependent on the rate of Arsenal used, tank mix partner, the volume of carrier, soil texture, rainfall and other conditions.

Consult manufacturer's labels for specific rates and weeds controlled. Always follow the more restrictive label when making an application involving tank mixes.

TANK MIX RECOMMENDATiONS FOR BAREGROUND

Herbicide Rates per Acre·

Arsenal herbIcide	Pendulum" WDG	Pendulum 3.3 EC	Diuron
Rate in pints	in lbs	in Quarts	in lbs ai
1.5 - 3	6.6	4,8	4-6
2-4	6.6	4.8	6·10
3·6	6.6	4.8	8 - 12

• Use higher rates fall applications and in areas that not been treated or that feature infestations.

Applications of Arsenal may be made anytime of the year. Use equipment calibrated to deliver desired gallons per acre spray volume and uniformly distribute the spray pattern over the treated area.

Postemergence Always use a spray adjuvant (see ADJUVANT section of this label) when making a postemergence application. For optimum performance on tough to control annual grasses, applications should be made at a total volume of 100 gallons per acre or less. For quicker burndown or brown-out of target weeds, Arsenal may be tank mixed with products such as Roundup·, Finale, Or MSMA. Tank mixes with 2,4-D or products containing 2,4-0 have reduced performance of Arsenal. Always follow the more restrictive label when tank mixing.

Spot Treatments: Arsenal may be used as a follow-up treatment to control escapes or weed encroachment in a bareground situation. To prepare the spray solution, thoroughly mix in each gallon of water 0.5 to 5% Arsenal plus an adjuvant. For increased burndown, include Roundup·, Finale, MSMA, or similar products. For added residual weed control or to increase the weed spectrum, add Pendulum or diuron. Always follow the more restrictive label when tank miXing.

FOR SPOT TREATMENT WEED CONTROL IN GRASS PASTURE AND RANGELAND

For the control of undesirable vegetation in grass pasture and rangeland, Arsenal may be applied as a spot treatment at a rate of 2 to 48 fluid oz of product per treated acre using any of the described ground application methods. Spot applications to grass pasture and rangeland may not exceed more than one-tenth of the area to be grazed or cut for hay. See appropriat(} sections of this label for specific use directions for the application method and vegetation control desired. DO NOT apply more than 48 fluid oz per acre per year.

Grazing and Haying Restrictions: There are no grazing restrictions following Arsenal application. DO NOT cut forage grass for hay for seven days after Arsenal application.

Appendix B - Arsenal Label

GUIDELINES FOR RANGELAND USE

Arsenal" herbicide may be applied to rangeland for the control of undesirable vegetation in order to achieve one or more of the following vegetation management objectives:

1. The control of undesirabie (non-native, invasive and noxious) piant species
2. The control of undesirable vegetation in order to aid in the establishment of desirable rangeland plant species.
3. The control of undesirable vegetation in order to aid in the establishment of desirabie rangeland vegetation following a fire.
4. The control of undesirable vegetation for purposes of wildfire fuel reduction.
5. The release of existing desirable rangeland plant communities from the competitive pressure of undesirable plant species.
6. The control of undesirable vegetation for purposes of wildlife habitat improvement.

To ensure the protection of threatened and endangered plants when applying **Arsenal** to rangeland:

1. Federal agencies must follow NEPA regulations to ensure protection of threatened and endangered plants.
2. State agencies must work with the Fish and Wildlife Service or the Service's designated state conservation agency to ensure protection of threatened and endangered plants.
3. 0ther organizations or individuals must operate under a Habitat Conservation Plan if threatened or endangered plants are known to be present on the land to be treated,

Please see the appropriate section(s) of this label for specific use directions for the desired rangeland vegetation management objective.

Arsenal should only be applied to a given rangeland acre as specific weed problems arise. Long-term control of undesirable weed species ultimately depends on the successful use of land management practices that promote the growth and sustainability of desirable rangeland plant species.

ROTATIONAL CROP GUIDELINE

Rotational crops may be planted twelve months after applying **Arsenal** at the recommended pasture and rangeland rate. Following twelve months after an **Arsenal** application and before planting any crop, a successful field bioassay must be completed. The field bioassay consists of a test strip of the intended rotational crop planted in the previously treated area in the grass pasture/rangeland and grown to maturity. The test strip should Include low areas and knolls, and include variations in soil type and pH within the treated area. If no crop injUry is evident in the test strip, the intended rotational crop may be planted the following year.

Use of **Arsenal in** accordance with label directions is expected to result in normal growth of rotational crops in most situations; however, various environmental and agronomic factors make it impossible to eliminate all risks associated with the use of this product and, therefore, rotational crop Injury is always possible.

WEEDS CONTROLLED BY ARSENAL

Arsenal will provide preemergence or postemergence control with residual control of the following target vegetation species at the rates listed. Residual control refers to control of newly germinating seedlings in both annuals and perennials. In general, annual weeds may be controlled by preemergence Or postemergence applications of **Arsenal. For established biennials and perennials, postemergence applications of Arsenal are recommended.** The rates shown below pertain to broadcast applications and indicate the relative sensitivity of these weeds. The relative sensitivity should be referenced when preparing low-voiume spray solutions (see **Low-Volume** section of **GROUND APPLICATIONS);** low-volume applications may provide control of the target species with less **Arsenal** per acre than is shown for the broadcast treatments. **Arsenal** should be used only in accordance with the recommendations on this label and the leaflet label.

Resistant Biotypes: Naturally occurring biotypes (a plant within a given species that has a slightly different but distinct genetic makeup from other plants of the same species) of some weeds listed on this label may not be effectively controlled by this and/or other herbicides (**Oust®**) with the ALS/AHAS enzyme inhibiting mode of action. If naturally occurring ALS/AHAS resistant biotypes are present in an area, **Arsenal** should be tank mixed or epplied sequentially with an appropriate registered herbicide having a different mode of action to ensure control.

GRASSES

COMMON NAME	SPECIES	GROWTH HABIT'
	Apply 2-3 pints per acre'	
Annual bluegrass	*(Poaannua)*	A
Broadleaf signalgrass	*(Braehiaria platyphylla)*	A
Canada bluegrass	*(Poa compressa)*	P
Downy brome	*(Bromus teelorum)*	A
Fescue	*(Festuea* spp.)	A/P
Foxtail	*(Setaria* spp.)	A
Italian ryegrass	*(Lalium multif/orum)*	A
Johnsongrass	*(Sorghum helepense)*	P
Kentucky bluegrass	*(Poa pratensis)*	P
Lovegrass	*(Eragrostis* spp.)	A/P
Orchardgrass	*(Daetylis glomerata)*	P
Paragrass	*(Brachiaria mutica)*	P
Quackgrass	*(Agropyron repens)*	P
Sandbur	*(Oenehrus* spp.)	A
Sand dropseed	*(Sporobulus eryptandrus)*	A
Smooth brome	*(Bromus inermis)*	P
Vaseygrass	*(Paspaium urvillei)*	P
Wild oats	*(Avena fatua)*	A
Witchgrass	*(Panicum capillare)*	A
	Apply 3·4 pints per acre'	
Barnyardgrass[J]	*(Echinochloa crus-gall)*	A
Beardgrass	*(Andropogon* spp.)	P
Bluegrass, annual[J]	*(Poa annual*	A
Cheat	*(Bromus secaJinus)*	A
Crabgrass	*(Digitaria* spp.)	A
Crowfootgrass[3]	*(Dacty/octenium aegyptium)*	A
Fall panicum	*(Panicum dichotomiflorum)*	A
Giant reed	*(Arundo donax)*	A
Goosegrass	*(E/eusine indica)*	A
Itchgrass[J]	*(Rottboellia exaltata)*	A
Junglerice[J]	*(Echinoch/oa co/anum)*	A
Lovegrass[J]	*(Eragrostis* spp.)	A
Maidencane	*(Panicum hemitomon)*	A
Panicum, browntop3	*(Panicum fasciculatum)*	A
Panicum, Texas[J]	*(Panicum texanum)*	A
Prairie threeawn	*(Aristida oligantha)*	P
Reed canarygrass	*(Phalaris arundinacea)*	P
Sandbur, field[3]	*(Cenchrus incertus)*	A
Signalgrass[3]	*(Brachiaria* spp.)	A
Torpedograss	*(Panicum repens)*	P
Wild barley	*(Hordeum* spp.)	A
Wooly cupgrass[3]	*(Erioctl/oa villosa)*	A

GRASSES *(continued)*

COMMON NAME	SPECIES	GROWTH HABIT'
	Apply 4-6 pints per acre'	
Bahiagrass	(Paspalum *notatum)*	P
Bermudagrass[4]	*(Cynodon dactylonj*	P
Big bluestem	*(Andropogon gerardli)*	P
Cattail	*(Typha* spp.)	P
Cogongrass	*(/mperata cylindrica)*	P
Dallisgrass	*(Paspalum dilatatum)*	P
Feathertop	*(Pennisetum vilJosum)*	P
Guineagrass	*(Panicum maximum)*	P
Phragmites	*(Phragmites australis)*	P
Prairie cordgrass	*(Spartina pectinala)*	P
Saltgrass[4]	*(Distich/is stricta)*	P
Sand dropseed	*(Sporobolus cryptandrus)*	P
SprangletopJ	*(Leptochloa* spp.)	A
Timothy	*(Phleum pratense)*	P
Wirestem muhly	*(Muhlenbergia frondosa)*	P
	BROADLEAF WEEDS	
	Apply 2-3 pints per acre'	
Alligatorweed	*(Alternanthera phi/oxaroides)*	AIP
Burdock	*(Arctium* spp.)	B
Carolina geranium	*(Geranium carolinianum)*	A
Carpetweed	*(Mo/lugo verticil/eta)*	A
Clover	*(Trifolium* spp.)	AIP
Common chickweed	*(Stellaria media)*	A
Common ragweed	*(Ambrosia artemisiifolia)*	A
Dandelion	*(Taraxacum officina/e)*	P
Dogfennel	*(Eupatorium capillifolium)*	A
FUares	*(Erodium* spp.)	A
Fleabane	*(Erigeron* spp.)	A
Hoary vervain	*(Verbena sfricta)*	P
Indian mustard	(Brassiea *juncea)*	A
Kochia[5]	*(Kochia scoparia)*	A
Lambsquarters	*(Chenopodium album)*	A
Lespedeza	*(Lespedeza* spp.)	P
Miners lettuce	(Montie *pertoliata)*	A
Mullein	*(Verbascum* spp.)	B
Nettleleaf goosefoot	*(Chenopodium murale)*	A
Oxeye daisy	*(Chrysanthemum leucanthemum)*	P
Pepperweed	*(Lepidium* spp.)	A
Pigweed	*(Amaranthus* spp.)	A
Puncturevine	*(TribuJus terrestris)*	A
Russian thistle	(Salso/a *kall)*	A
Smartweed	*(Po/ygonum* spp.)	A
Sorrell	*(Rumex* spp.)	p
Sunflower	*(Hellanlhus* spp.)	A
Sweet clover	(Me/ilotus spp.)	A
Tansymustard	(Ambrosia *psilostachya)*	p
Wild carrot	*(Daucus* carora)	B
Wild letluce	*(Lactuca* spp.)	AIB
Wild parsnip	*(Pastinaca sativa)*	B

BROADLEAF WEEDS *(continued)*

	SPECIES	GROWTH HABIT' .
	Apply 2-3 pints per acre'	
	(Brassica campestris)	B
	(Franseria tomentosa)	P
	(Oxalis stricta)	P
	Apply 3-4 pints per acre'	
	(Gutierrezia sarothrae)	P
	(Cirsium vulgare)	B
Burclover[3]	*(Medicago* spp.)	A
	(Cerastium vulgatum)	A
	(Trifolium procumbens)	A
	(Xanthium strumarium)	A
	(Gnaphalium spp.)	A
	(Aihagi pseudalhagi)	P
	(Centaurea diffusa)	A
	(Rumex spp.)	P
	(Amsinckia intermedia)	A
	(Solidago spp.)	P
Henbit[3]	*(Lamium aplexicaule)*	A
	(Polygonum aviculare)	NP
	(Phyto/acca americana)	P
	(Lythrum salicaria)	P
	(Portuiaca spp.)	A
Florida[3]	*(Richardia scabra)*	A
Rocket,	*(Sisymbrium irio)*	A
Rush skeletonweed[6]	*(Chondrilla juncea)*	B
Saltbush	*(Atrip/ex* spp.)	A
Shepherdspurse[J]	*(Capsella bursa-pastoris)*	A
Spurge. annuaP	*(Euphorbia* spp.)	A
Stinging nslUa[B]	*(Urtica dioica)*	P
Velvetleaf	*(Abutilon*	A
Yellow starthistle	*(Centaurea solstitialis)*	A
	Apply 4-6 pints per acre'	
Arrowwood	*(Piuchea sericea)*	A
Canada thistle	*(Cirsium aNense)*	P
Giant ragweed	*(Ambrosia trifida)*	A
Greyrabbitbrush	*(Chrysothamnus nauseosus)*	P
Japanese bamboo/knotweed	*(Poiygonum cuspidatum)*	P
Little mallow	*(Malva p8lviflora)*	B
Milkweed	*(Asclepias* spp.)	P
Primrose	*(Oenothera kun/hiana)*	P
Russian knapweed	*(Centaurea repens)*	P
Silverleaf nightshade	*(Solanum elaeagnifolfum)*	P
Sow1histle	*(Sonchus* spp.)	A
Texas thistle	*(Cirsium texanum)*	P

VINES AND BRAMBLES

COMMON NAME	SPECIES	GROWTH HABIT'
	Apply 1 pint per acre	
Field bindweed	*(Convolvulus arvensis)*	P
Hedge bindweed	*(Calystegia sepium)*	A
	Apply 2-3 pints per acre'	
Wild buckwheat	*(polygonum convolvulus)*	p
	Apply 3-4 pints per acre'	
Greenbriar	*(Smilax* spp.)	p
Honeysuc kle	*(Lonicera* spp.)	P
Morningglory	*(Ipomoea* spp.)	A/P
Poison ivy	*(Rhus radicans)*	P
Redvine	*(Brunnichia cirrhosB)*	P
Wild rose	*(Rosa* spp.)	P
Including: Multiflora rose	*(Rosa multiflora)*	P
Macartney rose	*(Rosa bractreata)*	P
	Apply 4-6 pints per acre'	
Kudzu[4]	*(Pueraria lobata)*	P
Trumpetcreeper	*(Campsis radicans)*	P
Virginia creeper	*(Parthenoc;ssus quinquefolia)*	P
Wild grape	*(Vilis* spp.)	P

BRUSH SPECIES

	Apply 4-6 pints per acre'	
American beech	*(Fagus grandilolia)*	P
Ash	*(Fraxinus* spp.)	P
Bald	*(Taxodium distichum)*	P
Bigleaf Maple	*(Acer macrophylum)*	P
Blackgum	*(Nyssa* sylvatica)	P
Black	*(Robinia pseudoacacia)*	P
Boxelder	*(Acer negundo)*	P
Brazilian peppertree	*(Schinus terebinthifolius)*	P
Cherry	*(Prunus* spp.)	P
Chinaberry	(Melia *azadarach)*	P
Chinese tallow-tree	(Sapium *seblferum)*	P
Dogwood	*(Comus* spp.)	P
Elm[8]	(Ulmus spp.)	P
Hawthorn	*(Crataegus* spp.)	P
Hickory	*(Carya* spp.)	P
HoneyloGust[9]	*(Gleditsia rriacanthos)*	P
Maple	*(Acer* spp.)	P
MeJaleuca	*(Melaleuca quiquenerviaj*	P
Mulberry	(Morus spp.)	P
Oak	*(Quercus* spp.)	P
Persimmon	*(Diospyros virginiana)*	P
Pine[10]	(Pinus spp.)	P
Poplar	*(Populus* spp.)	P
Privet	*(Ligustrum vUlgare)*	P
Red Alder	*(Alnus rubra)*	P
Red Maple	*(Acer rubrum)*	P
Russian Olive	*(Eleagnu5 angustifolia)*	P
Saltcedar	*(Tamarix ramosi55ima)*	P
Sassafras	(Sassafras *albidum)*	P

= =

Karmex® or diuron.

For best results, early poslemergence applications are required.

Tank mix with Roundup", Accord·, Krenite·, 3A or Tordon® K.

Tank mix with Roundup, Accord, or Escort.

Tank mix with Roundup, Accord, Garlon 3A or Tordon K,

Tank mix with Accord, Roundup, Garlon 3A, Tordon K or Krenite.

Escort, Karmex, Krenite, Oust and Telar are registered trade-
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Garlon and Tordon are registered trademarks of *Dow*
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Finale is a *registered trademark of Bayer.*
Vanquish is a *trademark* of a *Syngenta Group Company.*

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BASF Corporation
Agricullural Products
26 Davis Drive
Research Triangle Park, NC 27709

BASF

The Chemical Company

B151 0-83-0	28.7%	3·Pyridinecarboxylic acid, 2-[4,5-dihydro-4-methyl-4-(1-methylelhyl)-5-oxo-1H-imidazol-2-ylj-, compd. with 2-propanamine (1:1)

3. Hazard identification

Emergency overview

CAUTiON: KEEP OUT OF REACH OF CHILDREN.
Avoid contact the skin, eyes and clothing.
Avoid inhalation of mists/vapours.

Potential health effects

See Product Label for additional precautionary statements.

Primary routes of exposure

Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquified gases.

Acute toxicity:

Relatively nontoxic after single ingestion. Slightly toxic after short-term skin contact. Relatively nontoxic after short-term inhalation.

Irritation:

May cause slight but temporary irritation 10 the eyes. May cause slight irritation to the skin.

Sensitization:

Skin sensitizing effects were not observed in animal studies.

is

Rinse

lenses, if present, after first 5 minutes, then continue rinsing.

If swallowed:
Have person sip a glass of water if able to swallow, Do not induce vomiting unless told to by a poison control center or doctor. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

Note to physician

Antidote:	No known specific antidote.
Treatment:	Treat symptomatically.

5. Fire·fighting measures

Flash point:	> 210"F
Self-ignition temperature:	93 "C

Suitable extinguishing modia:
foam, dry extinguishing media, carbon dioxide, water spray

Hazards during fire-fighting:
carbon monoxide, carbon dioxide, nitrogen oxide, nitrogen dioxide, Hydrocarbons,
If product is heated above decomposition temperature, toxic vapours will be released. The substances/groups of SUbstances mentioned can be released if the product is involved in a fire.

Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Coliect wash water for approved disposal.

7. Handling and storage

Handling

General advice:
RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS. PESTICIDE APPLICATORS & WORKERS must refer to the Product and Directions for Use attached to the product for Agricultural Use Requirements accordance with the EPA Worker Protection Standard 40 CFR part 170. Ensure adequate ventilation. Provide good ventilation of working area (local exhaust ventilation if necessary). Keep away from sources of - No smoking. Keep container tightly sealed. Protect contents from the effects of light. Protect against heat. Protect from air. Handle and open container with care. Do not open until ready to use. Once container is opened, content should be used as soon as possible. Avoid aerosol formation. Avoid dust formation. Provide means for controlling leaks and spills. Do not return residues to the storage containers. Follow label warnings even after container is emptied. The substance/ product may be handled only by appropriately trained personnel. Avoid all direct contact with the substance/product. Avoid contact with the skin, eyes and clothing. Avoid inhalation of dusts/mists/vapours. Wear suitable personal protective clothing and equipment.

Protection against fire and explosion:
The relevant fire protection measures should be noted. Fire extinguishers should be kept handy. Avoid all sources of ignition: heat, sparks, open flame. Sources of ignition should be kept wert clear. Avoid extreme heat. Keep away from oxidizable substances. Electrical equipment should conform to national electric code. Ground all transfer equipment properly to prevent electrostatic discharge. Electrostatic discharge may cause ignition.

Storage

General advice:
Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect containers from physical damage. Protect against contamination. The authority permits and storage regulations must be observed.

Storage incompatibility:
General: Segregate from incompatible substances. Segregate from foods and animal feeds. Segregate from textiles and similar materials.

Temperature tolerance

Protect from temperatures above: 40 °C
Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

8. Exposure controls and personal protection

Users of a pesticidal product should refer to the product label for personal protective equipment requirements.

Advice on system design:
Whenever possible, engineering controls should be used to minimize the need for personal protective equipment.

Personal protective equipment

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

Respiratory protection:
Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) TC23C ChemicaVMechanical type filter system to remove a combination of particles, gas and vapours. For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Ufe or Health (IDLH), use NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece supplied-air pressure demand respirator (SAR) with escape provisions.

Hand protection:
Chemical resistant protective gloves, Protective glove selection must be based on the user's assessment of the workplace hazards.

Eye protection:
Safety glasses with side-shields. Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, Chemical-protection suit.

General safety and hygiene measures:
Wear long sleeved work shirt and long work pants addition to other stated personal protective equipment. Work place should be equipped with a shower and an eye wash. Handle in accordance with good industrial hygiene and safety practice. Personal protective equipment should be decontaminated prior to reuse. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. No eating, drinking, smoking or tobacco use at the place of work. Keep away from food, drink and animal feeding stuffs.

9. Physical and chemical properties

Form:	liquid
Odour:	ammonia-like, faint odour
Colour:	blue, clear
pH value:	6.6 - 7.2
Density:	*1.04 - 1.09 g/ml*
Relative density:	*1.04* - 1.09
Partitioning coefficient n-octanollwater (log Pow):	Not applicable
Solubility in water:	miscible

10. Stability and reactivity

Conditions to avoid:
Avoid all sources of ignition: heat, sparks, open flame. Avoid extreme temperatures. Avoid prolonged exposure to extreme heat Avoid contamination. Avoid electro-static discharge. Avoid prolonged storage.

Substances to avoid:
oxidizing agents, reducing agents

Hazardous reactions:
The product is chemically stable.

Decomposition products:
Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated., Prolonged Ihermalloading can result in products of degradation being given off.

Thermal decomposition:
Possible thermal decomposition products:
carbon monoxide, carbon dioxide. nitrogen oxide
Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released. If product is heated above decomposition temperature hazardous fumes may be released.

Corrosion to metals:
Corrosive effect on: mild steel brass

11. Toxicological information

Acute toxicity

Oral:
LD50fraVmaleffemale: > 5.000 mg/kg

Inhalation:
Le50/rat > 4.62 mgfl/4 h

Dermal:
LD50/rabbiVmale/female: > 2.000 mglkg

Skin irritation:
rabbit: mildly irritating (Primary skin irritation test)

Eye irritation:
rabbit: non-irritant

Sensitization:
Skin sensitization tesVguinea pig: Skin sensitizing effects were not observed in animal studies.

Genetic toxicity:
InformaUon on: imazapyr
No mutagenic effect was found in various tests with microorganisms and mammals.

Carcinogenicity:
Information on: imazapyr
In long-term studies in rats and mice in which sUbstance was given by feed, a carcinogenic effect was not observed.

Reproductive toxicity:
Information on: imazapyr
The results of animal studies gave no indication of a fertility impairing effect.

Developmental toxicity/teratogenicity:
Information on: imazapyr
No indications of a developmental toxic / teratogenic effect were seen in animal studies.

12. Ecological information

Information on: imazapyr

Environmental toxicity

Information on: imazapyr
Acute and prolonged toxicity to fish:
Rainbow IroutILC50 (96 h): > 100

Information on: imazapyr
Acute toxicity fa aquatic invertebrates:
Daphnia magnalEC50 (48 h): > 100 mgl/

Information on: imazapyr
Toxicity to aquatic plants:
green algae/EC50: 71 mg/l

Information on: imazapyr
Other terrestrial non-mammals:
mallard duck/LC50: > 5,000 ppm
With high probability not acutely harmful to terrestrial organisms.
Honay bee/LD50: > 100 ugIbe.
With high not acutely harmful to terrestrial organisms.

Other ecotoxicological advice:
The ecological data given are those of the active ingredient. Do not release untreated into natural waters.

13. Disposal considerations

Waste disposal of substance:
Pesticide wastes are regulated.
Improper disposal of excess pesticide. spray mix or rinsate is a violation of federal law.
If pesticide wastes cannot be disposed of according to label instructions, contact the State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container disposal:
Rinse thoroughly at least three times (triple rinse) in accordance with EPA recommendations. Consult state or local disposal for approved alternative procedures such as container recycling. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

RCRA: This product is not regulated by ReRA.

14. Transport information

Reference Bill of Lading

15. Regulatory information

Federal Regulations

Registration status:
TSCA,US **released / exempt**

OSHA hazard category: **Chronic target organ effects reported, ACGIH TLV established**

SARA hazard categories (EPCRA 311/312): Acule

State regulations

CA Prop, 65:
There are no listed chemicals in this product

16. Other information

Refer to product label for EPA registration number.

Recommended use: herbicide

Local contact Information
Product Stewardship
919547-2000

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END OF DATA SHEET

Specimen

Dow

Curtail*

of Dow AgroSciences LLC

For selectlve control of broadleaf weeds in wheat and barley not underseeded with a legume, fallow cropland, grasses grown for seed, rangeland and permanent grass pastures, conservation reserve program (CRP) acres and non-cropland

Active Ingredients:

clopyralid MEA salt: 3,6-d.ichloro·2·pyridinecarboxylic acid, monoethanolamine sall..	5.1%
2,4-dichlr ,henoxyacetic acid, triisu:.:upanolamine salt'	39.0%
Inert Ingredients	55.9%
Total	100.0%

Acid Equivalents:

ctopyralid: 3,6-dichloro-2-pyridinecarboxylic acid - 3.9% - 0.38 Iblgal

2,4-dlchlorophenoxyacetic acid· 20.9% • 2.0 Iblgal

'Isomer Specific by AQAC Method No. 978.05 (15th Ed.)

EPA Reg. No. 62719-48

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 10 explain il to you in detail.)

Precautionary Statements

Hazards to Humans and Domestic Animals

Corrosive. Causes Irreversible Eye Damage· Harmfullf Absorbed Through Skin Or Inhaled. Harmful If Swallowed

Do not get In eyes, on skln, or on clothing. Wear protective eyewear (goggles or face shield). Avoid breathing spray mist

Personal Protective Equipment (PPE)

Applicators and olher handlers must wear:

Long-sleeved shirt and long pants

Chemical-resislanl gloves made of any walerproof material

Shoes plus socks

Proteclive eyewear

For containers of over 1 gallon, but less than 5 gallons: Mixers and loaders who do not use a mechanical syslem (such as prObe and pump) to transfer the contents of this container must wear coveralls or a chemical-resistant apron in addition to other required PPE.

Discard clothing and olher absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instruclions 'or cleaning/mainlaining PPE. If no such instructions for washables, use detergent and hot waler. Keep and wash PPE separately from olher laundry. After each day of use, clothing or PPE must nol be reused until it has been cleaned.

Engineering Controls Statements

For containers of 5 gallons or more: A mechanical system (such as prObe and pump) must be used for transferring the contants of lhis container. If lhe contents 0 a non·refillable pesticide container are emptied, the probe must be rinsed before removal. If the mechanical system is used in a manner that meels lhe requirements listed in lhe Worker Protecllon Standard (WPS) for agricultural pesticides [40 CFA 170.240 (d) (4)]. the handler PPE requirements *may* be reduced or mOdified as specified in the WPS.

When handlers use enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) tor agricu!lural pesticides 140 CFA 170.240 (d) (4-6)]. the handler PPE requiremenls may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should:

- Wash handS before eating, drinking, cheWing gum, using tobacco, or using lhe toilel.
- Remove clothing immediately it 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 thorouqhlV and chanqe into clean clothinq.

will

If with

if

1-800-992-5994

this

40°F or warm and agitate before use.

Pesticide Disposal: Pesticide wasles are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your Slate Pesticide or Environmental Conlrol Agency, or the Hazardous Waste representative at the nearest EPA Regional Ollice for guidance.

Metal Container Disposal: Do not reuse container. Triple rinse (or equivalent). Then offer lor recycling or or punclure and dispose of in a sanilary or by other procedures approved by state and local authorities.

It

Container Disposal (Plastlc): Do not reuse container. Tripls rinse (or equivalent). Then oller lor recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by slate and local authorities, by burning. If burned, stay out of smoke.

use

New is

General: Consult federal, state, or local disposal authorities lor approved alternative procedures.

aside

bentgrass.

specific

10.5

Brassica soecies)

1. A field bioassay is recommended prior to planting any broadleaf crops that are not listed. Do not rotate to unlisted crops prior to 10.5 months following application.
2. An 18-month crop rotation is recommended due to the potential for crop injury. Note: For these crops, a minimum 10.5 month rolation interval must be observed to avoid residues in the harvested crop.
3. The potential for injury may be reduced by burning, removal, or incorporation of treated crop residues followed by a minimum of 2 supplemental fall irrigations.

	15	
		application)
oals, wheat		
canola (rapeseed), flax, sunar beets	5 months	5 months
asparagus. *Brassiea* species grown for seed, cole crops, grain sorghum, mint, onions. popcorn, strawberries, sweet corn	12 months	12 months
alfalfa, dry beans, soYbeans. sunflowers	12 months	18 months (2)
lentils, peas, potatoes (Including potatoes grown for seed), safflower, and broadleaf crops grown for seed (excluding *Brassica* soecies)	18 months (2)	1B months (2, 3)

1. A field bioassay is recommended prior to planting any broadleaf crops that are not Do not rotate to unlisted crops prior to 12 months following application..
2. An 1B-month crop rotation is recommended due to the potential for crop injury. Note: For these crops, a minimum 12 month rota interval must be observed to avoid residues in the harvested crop.
3. Crop injury and/or yield loss may occur up to 4 years after application. A field bioassay is also recommended prior to planting these sensitive crops. See instruclions below.

' Note: The above Intervals are based on average annual precipilalion, regardless of irrigation practices. Observance of recommended crop rotalion intervals should result in adequate safety to rotational crops. However, Curtail Is dissipated in the soil by microbial activily and the rate of microbial activity is dependent on several interrelating factors including soil moisture, temperature and organic malter. Therefore, accurate prediction of rolational crop safety is not possible. In areas of low organic matter «2.0%) and less than f5 Inches average annual precipitalion, potential for crop injury may be reduced by burning or removal of plant residues, supplemental fall irrigation and deep moldboard plowing prior to planting the sensitive crop.

Avoiding Injury 10 Non-Targel Planls

This product can affect susceptible broadleaf plants directly through foliage and indirectly by root uptake from treated do not apply Curtail directly to, or spray drift to come In contact with, flowers, grapes, tomatoes, potatoes, beans, lentils, peas, alfalfa, suntlowers, soybeans, safflower, or other desirable broadleaf crops and ornamental plants or soil where these sensitive crops be planted the same season.

Residues in Plants or Manure: Do not use plant residues, including hay or straw from treated areas, or manure or bedding straw from animals that have grazed or consumed forage from treated areas, for composting or mulching, where susceptible plants may be grown the following season. Do not spread manure from animals that have grazed or consumed forage or hay from treated areas on land used for growing susceptible broadleaf crops. To promote herbicidal decomposition, plant residues should be evenly incorporated or burned. Breakdown of clopyralid in crop residues or manure is more rapid under warm, moist soil conditions and may be enhanced by supplementallrrlgalion.

Avoid Movement of Treated Soil
Avoid conditions under which soil from treated areas may be moved or blown to areas containing susceplllble plants. Wind-blown dust containing clopyralid may produce visible symptoms, such as epinasty (downward curving or of leaf petioles or stems) when deposited on susceptible plants; however, serious injUry unlikely. To minimize potential movement ot clopyralid on wind-blown dust, avoid treatment 01 powdery dry or light sandy soils soil is sellied by rainfall or irrigation or irrigation shortly after application.

Avoid Spray Drift
Avoid spray drift since very quantities of the spray, which may not be visible, may severely injure susceptible crops during active growth or dormant periods, Use coarse sprays 10 minimize drift. To aid in further reducing drift, a drift control or deposilion agent suitable for agricullural use may be used with this product. If used, follow all use recommendations and precautions on the producllabel.

Ground Applicatlon: 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 minimum recommended pressures for the 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 application under completely calm conditions which may be to inversion. In hand-gun applications, select the minimum pressure required to obtain adequate plant coverage without forming a mist Do .not apply with a mist blower.

Aerial Application: With aircraft, drift can be lessened by using straight stream nozzles directed straight back; by using a spray boom no longer than 3/4 the wing span of the aircraft; by using drift control systems or control additives; and, by keeping spray pressures low enough to provide coarse spray droplets. Do not use a thickening agent with the Microfoil or Thru-Valve booms, or other systems that cannot accommodate thick sprays. Spray only when wind velocity is low (follow state regulatiOns), Avoid calm conditions which may be conducive to air inversions.

Do not apply by aircraft when an air temperature inversion exists. Such a condjtion is characterized by little *or* no wind and lower air temperature near the ground than at higher levels. The use of a smoke device on the aircraft or continuous smoke column at or near of application will indicate air direction and velocity, and whether a temperature inversion Is present, as indicated by horizontal layering of the smoke.

the second rinse. add 1 qt of household ammonia for every 25 gallons of water. Circulate the solution through the entire system so that all internal surfaces are contacted (15-20 minutes). Let the solution stand for several hours, preferably overnight.

3. Flush the solution out of the spray lank through the boom.
4. Rinse the system twice with clean water, recirculating and draining each lime.
5. Remove nozzles and Screens and clean separately.

Mixing and Loading

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

Mixing Instructions

1. Add 3/4 of the required spray volume to the spray tank and start agitation.
2. Add the required amount of Curtail.
3. Add any surfaclants, adjuvants or drift control agents according to manufacturer's label.
4. Agitate during linallilling of the spray tank and maintain suflicient agUation during application to ensure uniformity of the spray mixturo.

Note: Allow time for thorough mixing of each spray ingredient before adding the next. If aHowed to stand alter mixing, agitate spray mixture before use.

Tank Mixing

This product may be applied in tank mix combination wilh labeled rates of other products provided (1) the tank mix product is labeled lor Ihe timing and method of application for the use site 10 be and (2) tank mixing is not prohibited by the label 01 the tank mix product.

Tank Mixing Precautions:

Read carefully and lollow all applicable use directions, precautions, and on the respeclive product labels.

Do not exceed recommended application rates. Do not tank mix another pesticide product thai contains the same active ingredient as this product unless the label of either tank mix partner specifies the maximum dosages that may be used.

For products packaged in water soluble paCkaging, do not tank mix wilh products containing boron or mix in equipment previously used to apply a produci mixture containing boron unless the tank and spray equipment has been adequately cleaned. (See instructions lor Sprayer Clean-OUt.)

Always perform a (jar) test to ensure the compatibility of products to be used in tank mixture.

Tank Mix Compatibility Testing: A jar test is recommended prior to tank mixing to ensure compatibility 01 Curtail and other pesticides. Use a clear glass quart jar with lid and mix the tank mix ingredients in the required order and their relative proportions. Invert the jar containing the mixture several limes and the mixture for approximately 1/2 hour. If the mixture balls-up, forms flakes, sludges, jels, oily films or layers, or other precipitates, it is not compatible and the tank mix combination should not be used.

Application Directions

Application Timing

Apply to actively growing weeds. Extreme growing conditions such as drought or near freezing temperatures prior to, al Or following applicalion may reduce weed control and increase the risk of crop injury at all stages at growth. Only weeds that have emerged at the time of application will be affected. Il foliage is wet at the time of application, control may be decreased. Applications of Curtail are rainfast within 6 hours alter application.

Application Rs···s

Gonerally, applicalion at the lower end 01 the recommended rate range will be satisfactory for young, succulent growth of susceptible weed species. For less sensitive species, perennials, and under conditions where control is more difficult (ptant stress such as drought or extreme temperatures, dense weed stands and/or larger weeds), the higher rates within the rate range will be needed. Weeds in fallow land or other areas where competition trom crops is not present will generally require higher rates for control or

Use of Surfaclants

Addition 01 welling andlor penetration agents is not usually necessary when using however, il a sur1actant will be added to the spray solution, use a ionic surfactant suitable lor use in growing crops of at least 80% active ingredient and do not exceed 4 pints per 100 gallons 01 spray solulion (0.5% v/v). Use of a surfactant in the spray mixture may increase weed control effectiveness but may reduce crop salety, particularly under conditions of ptant stress.

Spray Coverage

Use sulficient spray volume to provide thorough coverage and a uniform spray pattern. Do not broadcast apply in less than 2 gallons 01 total spray volume per acre. For best results and to minimize spray drift, apply in a spray volume 0110 gallons or more per acre. As vegetative canopy and weed density increase, spray volume should be increased to obtain equivalent weed control. Use only nozzle types and spray equipment designed lor herbicide application. To reduce spray drift, foHow precautions under Avoiding Injury to Non-Target Plants.

non-pressurized

with

+ =

≈ 29.6 (30) ml

Broadleaf Weeds Controlled

Note: The leiter in parentheses (-) after the listed weed indicates if lile cycle is annual (a), biennial (b), or perennial (p).

alfalfa (from seed only) (p)
artichoke, Jerusalem (p)
buckwheat, wild (a)
bulfalobur (a)1
burdock, common (b)
chamomile, false (scentless) (a)
chamomile, mayweed (doglennel) (a)
clover, black medic (a)
clover, hop (a)
clover, sweet (b)
clover, red (p)
clover, white (p)
cocklebur, common (a)
coffeeweed (a)
mustard, tumble (Jim Hill) (a)
mustard, (a)
nightshade, black (a)
nightshade, culleaf (a)
nightshade, eastern black (a)
nightshade, hairy (a)
pennycress, field (fanweed) (a)
pigwoed, redroot (a)
pineappleweed (a)
plantain (p)
radish, wild (a)
ragweed, common (a)
ragweed, giant (a)
salsify, meadow (goatsbeard) (b)
cornllower (bachelor button) (a)
dandelion (p)
dock, curly (p)
fJixweed (a)'
groundsel, common (b)
hawks beard, narrowleaf (a)
hawkweed, orange (p)
hawkweed, yellow (p)
horseweed (a)
jimsonweed (a)
knapweed, diffuse (b)
knapweed, Russian (p)'
knapweed, spotted (b)
kochia (2-4 leaf) (a)l
ladysthumb (a)
lambsquarters, common (a)
leUuce, prickly (a)
locoweed, lambert (p)
locoweed, white (p)
marshelder (a)
shepherdspurse (a)
sicklepod (a)
smartweed, Pennsylvania (a)
sorrel, red (p)
sowthislle, annual (a)
sowthistle, perennial (p)'
slarthislle, yellow (a)
sunflower, common (a)
teasel, common (b)
thisUe, bull (b)
tansymustard, pinnate (a)l
thistle, Canada (p)
thistle, musk (b)
thistle, Russian (1-3 leal) (a)
velvetleaf (a)
vetch (a)
volunteer beans (a)
volunteer lentils (a)
volunteer peas (a)
wormwood, biennial (a. b)

, These weeds may only be suppressed. Suppression is a visual reduction in weed competition (reduced population or vigor) as compared 10 untreated areas. The degree and duration of weed control will vary with weed size and density, application rate and coverage, and growing conditions and after treatment. For perennial weeds, Curtail will controllhe Initial top growth and regrowth during the season of application (season-long control). At higher rates shown on this label, Curtail may cause a reduction in shoot regrowth in the season following application; however, plant response may be inconsislent due to inherent variability in shoot regrowth from perennial rool systems.

Crop Uses

Agricultural Use ReqUirements for Crops: For the following crop uses, follow·PPE and Reentry instructions in the "AgricuUural Use Reauirements" section of this label.

Barley and Wheat

Application Timing
Apply Curtail in the spring to aclively growing wheat or barley once 4 leaves have unfolded on the main stem and tiltering has begun up to the jointing stage (first node of main slem detectable). To control or suppress lisled weeds, make application atler maximum emergence of the target weeds but before they exceed 3 inches in height or diameter (for rosettes). To obtain soason-long control of perennial weeds, such as Canada thistle, apply after the majorily of the weed's basal leaves have emerged from the soil up to bud stage. A later applicalion when the crop is between the jointing and boot stage of growlh may be used to control later-emerging weeds; however, do not apply unless the risk of injury is acceptable. Do not apply after the bool slage.

Application Rate
Apply 2 to 2 2/3 pints per acre of Curtail. The higher rate *may* be used when the condition of the weeds andlor crop althe time of Irealment may prevenl optimum control. Note: Higher rates of Curtail or any application of Curtail following a spring postemergence treatment with 2,4-D or MCPA, may increase the risk of crop injury.

For best results, wait 14 to 20 days after application belore cultivating or ferlilizing with shank-type applicators to allow for thorough translocation. To avoid potential phytotoxicity, allow at least 30 days alter application before seeding to Wheat, barley or grasses.

Application Rate
Apply 2 to 4 pints per acre of Curtail. Applications of Curtail to cropland made either before or after an application 10 small grains in a 12 month period are restricted to 2 pints per acre. The lower rate should not be used in fallow cropland unless it is a part of a planned sequential treatment.

Tank Mixtures for Fallow Cropland
To improve control of certain broadleaf weeds, Curtail at 2 pints per acre may be applied with up to 1.5 Jb acid eqUivalent per acre additional 2.4-0. See Tank Mixing Precautions under Mixing Instructions. When tank mixing, do not exceed recommended apPlication rates and use only in accordance with the most restrictive precautions and limitations on the respective producllabels.

Grasses Grown for Seed

Application Timing
Apply only 10 established grasses before the boot stage of growth. Applications in the boot stage and beyond will resul! in increased potential for injury. Do not apply to bentgrass unless Injury can be tolerated. For control of late-emerging Canada thislle, a preharvest treatment may be made after grass seed is fully developed, Treatment 01 Canada IhisUe in the bud stage and later may result In less consistent control. Post-harvest fali treatments may be made to actively growing Canada thistle after the majority 01 basat leaves have emerged.

Application Rate
Use 2 to 4 pints per acre of Curtail for control of annual weeds and Canada thistle. The potential for crop injury exists due to the 2,4-0 component of this product and must be balanced against the benefits of improved weed control. Potential for crop injury increases with higher rates. Re-treat as necessary, but do not exceed 4 pints per acre 01 Curtail per season.

Tank Mixtures for Grasses Grown for Seed
Curtail at 1 3/4 pints per acre may be tank mixed with Banvel or Buctril to improve the control of certain weeds. Soe Tank Mixing Precautions under Mixing Instructions. When tank mixing, do not exceed recommended application rates and only in accordance with the most restrictive precautions and Iimilalions on the respective product labels.

Rangeland, Pasture and Non-Crop Uses

Rotation to Broadleaf Crops: Do not plant broadlcaf crops in treated areas until an adequalely sensitive bioassay shows that no detectable c10pyralid is present in Ihe soil (see field bioassay instructions).

Rangeland and Perma.nent Grass Pastures

Apply 2 to 4 quarts per acre of Curtail when weeds are actively growing. For weeds such as biennial thistles. spotted and diffuse knapweed, yellow starthistre and Canada thistle, apply the 2 quart per acre rafe on to moderate infestations under good growing condilions. Use 3 quarts per acre for dense infestations or under poor growing conditions such as drought. For control of Russian knapweed, apply 3 10 4 quarts per acre allhe early bud to mid-flowering stage Or on tali regrowth. Note: Review Pasture/Haying/GrazinglAestrictions under Precautions and Restriclions.

Conservation Reserve Program (CRP) for Seeding to Permanent Grasses Only

Do nol use Curtail if legumes or bentgrass are a desired cover crop during CAP.

Conditions of plant stress, such as drought, increase potential for injury to grasses at all stages of growth. Do not apply to newly seeded areas until grass established.

can be applied when perennial grasses are well established as indicated by vigorous growth and development of tillers and secondary roots. For control of weeds such as musk thistle, Canada thistle and knapweed (diffuse, spotted and Russian), apply to actively growing weeds after the majority of the basal leaves have emerged up to bud stage. Later applications may result in less consistent control.

In fields with heavy weed density that are to be planted 10 CRP grasses, a pre-seeding application may be made. In general, cropland to be planted 10 CAP in the spring should be treated during the previous fall and cropland to be planted to CRP in the fall should be treated during the previous spring or summer. A pre-seeding treatment Curtail may cause visible injury and reduced seed production in some newly planted grass stands; however, grass stand establishment should be improved because of reduced weed competition. Wait at feast 30 days aller treating with Curtail before seeding grasses.

Application Rate

Apply 2 10 4 quarts per acre of Curtail. Do not exceed 2 quarts per acre for pre-seeding treatment.

Non-Cropland

Curtail may be applied in non-cropland areas such as fence rows, around farm buildings and equipment pathways. Apply 2 to 4 quarts per acre of Curtail when weeds are actively growing. Where Canada thistle or knapweed (spotted or dilluse only) is the primary pest, best results are obtained by applying Curtail when the majority of basal leaves have emerged up to bud stage. Lator applications may resull in Jess consistent conlrol. Note: Curtail is not registered for use in landscaping or on turfgrass or lawns.

Terms and Conditions of Use

If lerms 01 the following Warranty Disclaimer, Inherent Risks of Use, and Limitalion of Remedies are not acceptable, relurn unopened package at once to the seller for a full refund of purchase price paid. Otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and LImitations of Remedies.

warranty Disclaimer

Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes slated on the label when used in accordance with the directions, SUbject to the inherent risks set forth below. Dow AgroSciences 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

II Impossiblo 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 instruclions (including conditions noted on the label, such as unfavorable temperatures, soli 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 Dow AgroSciences or the seller. All such risks shall be assumed by buyer.

Limitation of Remedies

The exclusive remedy for losses or damages resulling from this product (inclUding claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences' election, one of the following:

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

Dow AgroSciences shall nol be liable for tosses or damages resulting from handling or use 01 this produclunless Dow AgroSciences is promptly notified of such loss or damage in writing. In no case shall Dow AgroSciences be 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 wrillen or verbal statements or agreements. No employee or sales agent of Dow AgroSclences 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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Dow Agro$ciences LLC • Indianapolis, IN 46268 U.S.A.

Label Code: D02-033-013
Replaces Label: 002-033-012
LOES Number: 010-00030

EPA-Accepted *10/30/03*

Revisions:

1. Added Note slatementto Non-Cropland section.

Emergency Phone: 800·992·5994
Dow AgroSclenc.s LLC
Indianapolis, IN 46268

Effective Date: 8/1/01
Product Code: 08103
MSDS: 003053

1 COMPOSITION/INFORMATION ON INGREDIENTS:

2,4-Dichlorophenoxyacetic acid, Triisopropanolamine salt	CAS# 000094-75-7	39.0%
Clopyralid Monoethanolamine salt	CAS# 057754-85-5	5.1%
Other Ingredients, Total. Including		55.9%
Triisopropanoiamine'l	CAS# 000122-20-3	
Ethylenediaminetetraacetic Acid	CAS# 000060-00-4	

11 Listed as 2-Propanol, 1,1',1"-nitrilotris by the Pennsylvania Right-to-Know Law.

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). In addition, other substances not 'Hazardous' per this OSHA Standard may be listed. Where proprietary ingredient shows, the identity may be made available as provided in this standard.

3. HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW

Hazardous chemical. Dark, amber liquid with a phenolic odor. May cause severe eye irritation with corneal injury. May cause skin irritation. The LD_{50} for skin irritation in rabbits is >4000 mg/kg. Oral LOw for rats is 3730 mg/kg (males) and 2830 mg/kg (females). Toxic to aquatic **organisms.**

EMERGENCY PHONE NUMBER: 800-992-5994

POTENTIAL HEALTH EFFECTS: This section includes possible adverse effects, which could occur if this material is not handled in the recommended manner.

EYE: May cause severe irritation with corneal injury, which **may result in permanent impairment of vision, even** blindness.

SKIN: Prolonged or repeated exposure may cause skin irritation. May cause more severe response if skin is abraded (scratched or cut). A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. The LD_{50} for skin absorption in rabbits is >4000 mg/kg.

INGESTION: Single dose oral toxicity is low. The oral LD_{50} for rats is 3730 mg/kg (males) and 2830 mg/kg (females). Small amounts swallowed incidental to normal handling operations are not iikely to cause injury; however, swallowing larger amounts may cause injury.

INHALATION: Single exposure to vapors is not likely to be hazardous.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: In animals, effects have been reported on the following organs: gastrointestinal tract, kidney, liver, and muscular system. Signs and symptoms of excessive exposure may be nausea andlor vomiting, abdominal cramps andlor diarrhea. Lethargy may be a sign or symptom of excessive **exposure.**

CANCER INFORMATION: Clopyralid did not cause cancer in laboratory animals. Various animal cancer tests have shown no reliably positive association between 2,4-0 exposure and cancer. Epidemiology studies on herbicide use have been both positive and negative with the majority being negative.

TERATOLOGY (BIRTH DEFECTS): Has caused birth defects in lab animals only at doses producing severe toxicity in the mother (2,4-0 TIPA). Clopyralid caused birth defects in test animals, but only at greatly exaggerated doses that were severely toxic to the mothers. No birth defects were observed in animals given c10pyralid at doses several times greater than those expected during normal exposure. The chelating agent component has been reported to cause birth defects in laboratory animals only at exaggerated doses that were toxic to the mother. These effects are likely associated with zinc deficiency due to chelation. Exposures having no effect on the mother should have no effect on the fetus.

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Dow

4. FIRST AID:

EYES: 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.

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

INGESTION: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

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

NOTE TO PHYSICIAN: No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

15. FIRE FIGHTING MEASURES:

FLASH POINT: >200'F (93'C)
METHOD USED: SCC

FLAMMABLE LIMITS
LFL: Not determined
UFL: Not determined

HAZARDOUS COMBUSTION PRODUCTS: Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic *andlor* irritating compounds. Hazardous combustion products may include and are not limited to nitrogen oxides, hydrogen chloride, carbon monoxide, and carbon dioxide.

residues of this product use water fog, carbon dioxide, dry chemical, or foam.

FIREFIGHTING INSTRUCTIONS: Keep people away. Isolate fire area and deny unnecessary entry. To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical, or foam. Contain firewater run-of if possible. Fire water run-off, if not contained may cause environmental damage. Review the "Accidental Release Measures" and "Ecological Information" sections of this MSDS.

PROTECTIVE EQUIPMENT FOR FIREFIGHTERS: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected iocation or safe distance.

16. ACCIDENTAL RELEASE MEASURES:

ACTION TO TAKE FOR SPILLS: Absorb small spills with materials such as Zorball or sand. Dike area in case of large spills and report to Dow AgroSciences at 800-992-5994.

17. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
HANDLING: Keep out of reach of children. Harmfui if swallowed, inhaled, or absorbed through skin. Causes eye irritation. Avoid contact with eyes, skin and clothing. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
STORAGE: Do not store below temperature of 40°F (7°C). If frozen (crystallized), warm to 80-90°F (27-32°C) and re-dissolve before using by rolling or shaking the container. Store in a safe manner. Store in'cool, dry place in original container only. Keep container tightly closed when not in use. Reduce stacking height where local conditions can affect packaging strength. Avoid elevated temperatures and direct sunlight.

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PELs are in accord with those recommended by OSHA, as in the 1989 revision of PELs.

A "skin" notation following the exposure guideline refers to the potential for dermal absorption of the material. It is intended to alert the reader that Inhalation may not be the only route of exposure and that measures to minimize dermal exposures should be considered.

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guideline.

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure gUideline. When respiratory protection is required for certain operations, use a NIOSH approved air-purifying respirator for organic vapors.

SKIN PROTECTION: Use gloves impervious to this material when prolonged or frequently repeated contact could occur. If hands are cut or scratched, use gloves impervious to this material even for brief exposures.

EYE/FACE PROTECTION: Use chemical goggles. Eye wash fountain should be located in immediate work area.

APPLICATORS AND ALL OTHER HANDLERS: Refer to the product label for personal protective clothing and equipment.

recommended storage conditions.

CONDITIONS TO AVOID: Some components of this product can decompose at elevated temperatures.

HAZARDOUS DECOMPOSITION: Hazardous decomposition products depend upon temperature, air supply and the presence of other materials. Hazardous decomposition products may include and are not limited to chlorinated pyridine, hydrogen chloride. or nitrogen oxides.

INCOMPATIBLE MATERIALS: Avoid contact with metals such as brass, copper, aluminum, acids, halogenated organics, and oxidizers.

HAZARDOUS POLYMERIZAnON: Not known to occur.

,11. TOXICOLOGICAL INFORMATION:

MUTAGENICITY (EFFECTS ON GENETIC MATERIAL): In·vitro and animal mutagenicity studies were negative for clopyralid. In-vitro and animal mutagenicity studies for 2,4-Dichlorophenoxyacetic acid were predominantly negative.

112. ECULOGICAL INFORMATION:

ENVIRONMENTAL FATE:

MOVEMENT AND PARTITIONING:
Based largely or completely on component information. Bioconcentration potential is low (BCF <100 or Log Pow <3).

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INFORMATION:

United States DOT Information:

For 2x2-1/2 and 4x1/2 gallon containers:

Land: Not regulated

Air: Not regulated

Marine: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,4-D ACID)/9/UN3082/ PGIII/MARINE POLLUTANT

30 gallon containers:

Land: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,4-D ACIDj/9/UN3082/PGIII/RQ (2,4-D ACID)

Air: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,4-D ACIDj/9/UN3082/PGIIIIRQ (2,4-D ACID)

Marine: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,4-D ACIDj/9/UN3082/PGIII/RQ (2,4-D ACID)/MARINE POLLUTANT

Land: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,4-D ACID)/9/ UN3082/PGIII/RQ (2,4-D ACID)/MARINE POLLUTANT

Air: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,4-D ACID)/9/ UN3082 /PGIII/RQ (2,4-D ACID)/MARINE POLLUTANT

Marine: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,4-D ACID)/9/ UN3082/PGIIIIRQ (2,4-D ACID)/MARINE POLLUTANT

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NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are sUbject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations.

U.S. REGULATIONS

SARA 313 INFORMATION: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

CHEMICAL NAME	CAS NUMBER	CONCENTRATION
2,4-0 ACID	000094-75-7	39%

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard
A delayed health hazard

TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

STATE RIGHT·TO-KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

CHEMICAL NAME	CAS NUMBER	
2-Propanol, 1,1',1"-Nitrilotris-	000122-20-3	PAI
Ethylenediamine-tetraacetic Acid	000060-00-4	NJ3 PA1 PA3
2,4-0 Acid	000094-75-7	NJ2 NJ3 PAI PA3

NJ2=New Jersey Environmental Hazardous Substance (present at greater than or equal to 1.0%).
NJ3=New Jersey Workplace Hazardous Substance (present at greater than or equal to 1.0%).
PA1=Pennsylvania Hazardous Substance (present at greater than or equal to 1.0%).
PA3=Pennsylvania Environmental Hazardous Substance (present at greater than or equal to 1.0%).

OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

NATIONAL FIRE PROTECtiON ASSOCIATION (NFPA) RATINGS:

Health	3
Flammability	1
Reactivity	0

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, or SUPERFUND): This product contains the following substance(s) listed as "Hazardous Substances" under CERCLA, which may require reporting of reieases:

Chemical Name	CAS NUMBER	RQ	% in Product
2,4-0 Acid	000094-75-7	100	39%
Ethylenediamine-tetraacetic Acid	000060-00-4	5000	2%

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MATERIAL SAFETY DATA SHEET

Dow AgroSciences

Emergency Phone: 800-992-5994
Dow AgroSclence. LLC
Indlanapoli., IN 46268

CURTAIL* HERBICIDE

Effective Date: 8/1/01
Product Code: 08103
MSDS: 003053

116. OTHER INFORMATION:

MSDS STATUS: Revised Section: 4 & 14
Reference: DR-0158-0821
Replaces MSDS dated: 7/27/00
Document Code: D03-033-005
Replaces Document Code: D03-033-004

The Information Herein Is Given In Good Faith, But No Warranty. Express or Implied, Is Made. Consult Dow AgroSciences for Further Information.

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Appendix B - Diuron Label

DIURON 80 WDG

WEED KILLER

WATER DISPERSIBLE GRANULE

ACTIVE INGREDIENT:
Diuron [3-(3,4-dichlorophenyl)-1,1-dimethylurea] 80%
INERT INGREDIENTS: 20%
TOTAL 100%

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Below For Additional Precautionary Statements.
EPA REG. NO. 34704·646
EPA EST. NO. 34704·MS·1
NET WEIGHT_____ POUNDS (_____ KG)

IHT 05P04

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

CAuses EYE IRRITATION. Do nat gel in eyes. on skin, or on clothing, Harmful if swallowed, inhaled. or absorbed skin. Avoid breathing dusl or spray

Personal Protective Equipment:
Some of the materials that are chemical-resistant to this product are listed below. If you want mare oplions, follow the instructions for category A on an EPA chemical·resistance category selaclion chart,
Applicators and other handlers must wear: long·sleeved shirt and long pants, chemical·resistant gloves made of any waterproof such as polyethylene or polyvinylchlorido, shoes plus socks.
Follow manufacturer's instruclions for cleaning and mainlaining PPE If no such instructions for washables, use detergent and hot water. Keep .and wash PPE separately from other laundry.

Englneerlng controls statements:
When handlers use closed systems, enclosed cabs, or..aircraft in a man'ner that meets listed in the Worker Protection' Standard (WPS) for ag,icultural pesticides [40 CFR 170.240 (d) (4-6)]. requirements may be a' as specified in the WpS.

USER SAFETY RECOMMENDATIONS

Users should:
Wash hands ealing, drinking, chewing gum,using tobacco or using the toilet.
Remove clolhing immediately if gets inside. Then wash thoroughly and put on clean clothing.
Remove PPE irnmedialely after handling this prodUCt. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change inlo clean clothing

FIRST AID

If swallowed:
- a poison control center or doctor immediately for treatment advice.
- Haye a sip a glass of water if able to swallow.
- 00 not induce vomiting unless told to do so by the pOison control cenler or doctor.
- 00 not anything mouth to an person.

If in eyes:
- Hold and rinse slowly and gently with wate' for 15 -20 minutes.
- Remove conlact lenses, if present, after the 5 minutes, then continue rinsing eye.
- Call center or doctor for treatment advice.

If on skin or clothing:
- Take off contaminated clothing.
- Rinse skin immediately with plenty of water tor 15·20 minutes.
- Call a polson conlrol center or doctor tor treatmenl advice.

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

Have the product container or label wilh you when calling a poison control center or doctor, or gOing for
FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1·800-301·7976.

ENVIRONMENTAL HAZARDS

For 'errestrial do not apply directly water, or 10 areas where surface waler is present or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of wastes.
IMPORTANT-Injury to or loss of desirable trees or other plants may resuil from ure to the following: do not apply as recommended for crop use), 0' drain or flush on or near desirable or ather plan's; or on areas ,oats extend. or in locations the chemical may be washed or moved into contact with their roots. Do not on ptantings or trees. shrubs or plants, nor an lawns, walks, driveways. tennis courtS. or simila, areas. Avoid dnn of granules or spray plants, Do not any body of water. Keep from contact With insecticides, fungicides and seeds.

Thoroughly clean all traces of this-herbicide from apptication equipment immediately after use. Flush tank, hoses and boom with changes of water after remoVing tips and screens (clean these parts separately).

DIRECTIONS FOR USE

It is a violation of Federal law to use this product In a manner inconsistent wlth its labeling..
00 apply this product in a way that will contact worke rs or other persons, elther directly or through drifl. Only protected handlers may be in the area during application.
For any requirements to your State or Tribe, consult the agency ble for regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with Worker p,otection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests. nurseries. and greenhouses. and handlers of pesticides. It contains requirements for Iraining, decontamination. notificalion, and emergency assistance. also con'ains spe- instructions and pertaining to Ihe statements on this label about personal protective equipment (PPE) and restricted·entry inlerval. The requirements in box only apply to uses *at* this product that *are* covered *by* lhe Worker Pmtection Standard.
Do not enter or allow worker entry into treated areas during lhe restricted entry (REI) of 12 hours.
PPE required fo' early entry treated areas that is permilted under the Worker Protection Standard and that involves with anything thet has been treated, such as plants, soil. or waler, is: coveralls, gloves made of any waterproof material, and shoes plus socks.

This should be only in accordance with recommendations on this label, or in separate published Loveland Produc's Inc. recommendations available through local dealers.

Loveland Products Inc. will be responsible for losses or damages from use of lhis product in any manner not specifically recommended by Loveland Products IIIC, User assumes all risk associated with such non recommended use.

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

STORAGE AND DISPOSAL

PESTICIDE STORAGE: Store product ,n original containe, only, away *tram* other pesticides, fertilJzer, food or feed.
PESTICIDE DISPOSAL: Do not conlaminate water, food or feed by storage or disposal. Open dumping is prohibited. Wastes resulling from the USe 01 this product may be disposed of on site or at an approved wasle disposal facility. !
CONTAINER DISPOSAL: Completely empty bag inlo applicallon equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State local authorities. by burning. If bag is burned, stay of smoke.

GENERAL INFORMATION

This product is a dispersible granule to be water and applied as a spray for selective control of weods in certain crops and for nonselective weed control

will the applied, soli texture, rainfall and other conditions. Soils high in clay or organic mailer require higher dosages than soil low in clay or organic matter to obtain equivalent herbicide performance. Moisture is required 10 activate Ihe chemica!; results occur if rainfall (or sprin. kler Irrigation) occurs within 2 weeks of application.

This herbicide applied preemergence, before emergence of crop and weeds, is an procedure because susceptible weeds are controlled in an early, vulnerable seedling state before they compete the crop. With favorable moisture conditions, this herbicide continues 10 control weeds for some time as the crop beller able to compete. Should weed seedlings begin to break through the preemergence treatment in numbers, secondary weed control procedures should be implemented; those include cultivation and postemergence herbicide application.

This product may also be used to control emerged weeds. Results vary with rate applied and environmental conditions: best results are obtained on succulent weeds growing under condilions of high humidity and temperatures of 70°F *or* higher. Addition of a surfactant, such as DuPont Surfactant WK *or* other similar herbicide surfactant approved lor use on crops, to the spray (where recommended) increases contact effects of this product.

This herbicide may be used as a directed postemergence application, where nozzles are adjusted so the weeds are sprayed but the crop is not. on the following crops: artichoke, corn (field), callan. sorghum (grain), sugarcane, and established planlings of apples, bananas, plantains, blueberries, caneberries, gooseberries, citrus, grapes, macadamia nuls, olives, papayas, peaches, pears, pecans, walnuts and certain tree plantings.

Under specified condiUons (see Directions for Use), this herbicide without sUliactant *may* be applied over the top or alfalfa (established, dormant or semidormanl), asparagus (established), birdsfoot (established, dormant), grass seed crops (established), oats, red clover (established, dormant), sugarcane, wheat, pineapple and plumosus fern (established, mowed).

Weed species vary in susceptibility to this product and they may be more difficult to control when under stress. Combinations of this product other herbicides (as registered) increase the number of weed species controlled; consult labels of the companion product for this and other information.

Since the effect of this herbicide varies with soils, of application, and environmental conditiOnS, it is suggested that growers limit their first use to small areas. Observe all cautions and limitations on labeling or all products used in mixtures,

SELECTIVE USE IN CROPS

PREEMERGENCE USE (Germinating Weeds): This herbicide, at recommended rates, controls annual weeds such as:

Broadleaves

¾ to 1 lb.lAcre	1½ to 2 lbs.lAcre	2 6 lbs.lAcre
Lambsquarters	Annual groundcherry	Ageratum
Pigweed	Annual morningglory	Annual smarlweed
Purslane	Chickweed	Annual sowthislle
Ragweed	Corn spurry	Corn speedwell
	Dogfennel	Dayflower
	Fiddleneck (amsinckia)	Flora's paintbrush
	Gromwell	Hawksbeard
	Knawel	Horseweed
	Pennycress	Kochia
	Shepherdspurse	Marigold
	Tansy-mustard	Mexican clover
	Wild buckwheat	Pineappleweed
	Wild lettuce	Pokeweed
	Wild mustard	Rabbit tobacco
		Spanishneedles
		Velvetleaf (buttonweed)
		Wild radish

Grasses

¾ to 1 Lb./Acre	1½ to 2 LbJAcfe	2 to 6 Lb.lAcre
arnyardgrass (walergrass)	Annual bluegrass	Annuallovegrass
Crabgrass	Annual vernalgrass	Annual ryegrass
	Foxtail	Kylinga
	Rattail fescue	Orchardgrass
	Red sprangellop	Peppergrass
	Velvetgrass	Ricegrass
		Sandbur
		Seedling johnsongrass

Partial control of the following weeds usually occurs at rates stated:

Broadleaves

I Lb.lAcre	4 Lbs.lAcre
Annual morningglory	Horsenettle
Cocklebur	
Prickly slda (teaweed)	
Sesbania	
Sicklepod	

Grasses

4 LbsJAcre	8 to 10 lbs./Acra
auackgrass	GUineagrass
	Maldencane
	Pangolagrass

POSTEMERGENCE USE (Emerged Seedling Weeds)
This product at recommended rates, controls annual weeds such as annual morningglory, barnyardgrass (watergrass), crabgrass, crowfoot, goosegr8SS, pigweed and purslane. Addilion of surfactant to the {where recommended) increases contact effects of thls product. Best results are obtained on succulent weeds growing under conditions of high humidity and temperatures of 70· F or higher.

EQUIPMENT-SPRAY VOLUMES AND PRESSURES
Use a boom power sprayer properly calibrated to a constant speed and rate of Openings in screens should be equal to or larger than 50 mesh. Continuous agitation lhe spray tank is required to keep material in suspension. Agitate by mechanical or hydraulic means: if by-pass or return line Is used, it should terminate at boltom of tank to minIlmize foaming. Avoid overlapping, and shut off spray booms while starting, slOWing or stoppping, or injury to the crop may result,

For preemergence application, use 25 to 40 gals. per acre and spray pressure of 30 to psi. For postemergence application, use volume (min. 25 gals. per acre) for thorough coverage of weed foliage; use spray pressure of 20 to 25 psi to keep spray drift to a minimum.

Aeriat: For alfalfa, asparagus, barley (Winter), colton (preplant or preemergence only), grass seed crops. pineapple. sugarcane and wheat (Winter), may be made by aircraft (5 to 10 gals. per acre): avoid overlapping of spray swath and avoid application under conditions where drift occur. Where land bedded, make application parallel 10 rows.
NOTE: With fixed-wing aircraft or helicopter an exactly even swath deposition cannot be and consequently crop InjUry or herbicide nonperformance may result Wholly or in part. Do not apply by air dIlring periods 01 thermal InverSion.

SPRAY PREPARATION
Mix proper amount of this product necessary volume of water: where use of surfactant Is recommended, dilute with 10 parts of water and add as last ingredient to nearly full tank.

USE RATES
All dosages of this herbicide are expressed as broadcast rates: for band treatment, use proportionally less. For example, use ⅓ of the broadcast when treating a 14" band where row spacing is Where a of dosage is given, use the lower rate on coarse lextured soils (low in or organic malter) and the higher rate on the line textured soils (high in clay or organic lor postemergence application, use the lower rate on smaller weeds and lhe higher rale on larger weeds

SOIL LIMITATIONS
Crop injury may result from to observe the following:
Unless otherwise directed, do no! use on sand, loamy sand, gravelly soils or exposed subsoils; nor on pecans where organic mailer is less than ½%; nor on alfalfa, apples. artichoke, barley (winter). bermudagrass pasture, citrus, colton, grapes. oals, olives, papayas, peaches, pears, plumosus fern. sorghum. sugarcane, walnuts and wheat (Winter) where organic malter is less than 1%; nor on blueberries, birdsfoot caneberries, gooseberries. macadamia nuts and peppermint where organic malter is tess than 2%.
weed control will be reduced on high organic matter soils (grealer than 5%, such as peat or muck).

REPLANTING
Unless otherwise directed, do not replant treated areas to any crop within 2 years after last applicalion as injUry to subsequent crops may result.

FIELD CROPS (See Soil Limitations)

A good seedbed must be prepared before preemergence use of lhis product as crop injury may result if application is made to ground which Is cloddy or compacted resulting in Improperly planted seed. Pial'll seed to depth Unless otherwise directed, surlace of the soil should not be cultivated or disturbed after application of this herbicide and before emergence of the crop as weed control may be reduced and crop may result. However, if is insufficient to activate lhe herbicide, a (rotary hoe preferred) should be made after emergence of crops while weeds small enough to be controlled mechanical means.

strands 1 year or more. Do not apply to seedling alfalfa nor alfalfagrass mixlures: do not apply to alfalfa under slress from disease, insecl damage. root penelratlon (such as on shallow pans), alkali spots: nor to flooded fields as crop injury may resull. Do not spray on or frozen ground.

Idaho, Oregon, Washington; Use 1½ to 3 lbs. per acre; for control of volunteer alfalfa, use 4 lbs. per acre. Apply in fall after becomes dormant but no later mid-December.

California (Dormant and Seml·DormantVarletles); Use 1½ to 3lbs. per acre; for control volunteer alfalfa, use 4 lbs. per acre. Apply in fall or winter after alfalfa dormant or semi-dormant. but before growth in the spring, Crop injury may if is made to growing For best results, apply before weeds emarged or become established (2" in height or diame·ter). Control of established weeds is improved by applying lhis product with a suitable contael herbicide regislered for such use. Sufficient rainfall for soil activation this product is unlikely In after February 1. Treated areas *may* be replant- to any crop after one *year* from last application if rate does exceed lbs. per acre.

Arizona. NeYada; Use 1 to 3 lbs. per in fall after alfalfa becomes dar·mant but no later than January,

Eastern Colorado, Kansas: For control tansymustard, apply 1 lb. per acre shortly alier emergence of mustard in fall or winter; use 2 lbs. per acre if weeds are 2" to 4" in height. Allernatiyely. if other weeds presenl, apply 2 10 3 lbs. per *acre* In February or March.

Other Areas Where Alfalfa Becomes Winter Dorman\; Use 1½ ta 3 lbs. per acre (1 ½ to 2 lbs. per acre East at Appalachian Mountains). Apply in March or early but growth begins.

ARTICHOKE·California
2 ta 4 lbs. per acre in lale tall or early after the last culli'ialion. Apply weeds germinate *or* to emerging seedlings. spray (0 cover area between the rows and at the base artichoke plants, contact wilh crop plants at a minimum

ASPARAGUS
Apply as a band or broadcast treatment Do not apply to young plants during the groWing season (except as noted below), nor to neWly seeded asparagus. nor on plants with exposed roots as severe injury *may* resuit Preemergence can·trol will be reduced on high soils (grealer than 5%).

Establlshed Plantings: On lighl sandy soils and other soils low in clay or organic matler, apply 1 to 2 lbs. per On soil high in clay or organic matler. use 2 to 4 lbs. per acre. Two applications may be used: the first applicalion should be made before weeds established but no earlier lhan 4 weeks before spear emergence and no later lhan the early culling period (if weeds are controlled inlo lhe cutling period by cullural application *may* be delayed untillmmedlately atter the last cultivallon); a second application may be made immediately following completion of harvest provided rainfall is expected. When two applications are used in one session, do not 3 lbs. per acre per application, In Washington (irrigal- crop), apply a single treatment of 4 lbs. per acre. If treatment is delayed untillale winler or early spring, incorporalion of the chemical in the top to 2" of soil *may* substitute for lack of rain to activate the herbicide.

Newly Planted Crowns-California (San JoaquIn Delta): Make a single applica-tion of 2 to 4 lbs. per acre on soils high in clay or organic uSe the lower rate on clay loams and the higher rate on peat soils. Do use on soils conlaining less than organic malter. Soil must settled by rainfall or irrigation prior to trealment. DO not crowns planted to a deplh of less than 2",

BARLEY, WINTER {Drill.Plantedl-Western Oregon and Wastern Washington; Make a single application of 1½ to 2 lbs. per acre as soon as atler planti-ng bul before emergence of barley. Do not replant treated areas to any crop wilhin 1 year arter lasl application as injury to subsequent may result.

BIRDSFOOTTREFOIL (Lotus}-Western Oregon
Treal only slrands established for at least 1 yea(; do not apply \0 seedling trefoils as injury may result. a single of 2 lbs. per when trefoil is dor·mant (Oclober 15 to December 15). Do (eplant treated areas to *any* crop wilh-in 1 year after last application as injury 10 subsequent crops *may* result.

CORN (Field)
Postemergence---Make a single application 01¾ lb. per acre in combination non pressure nitrogen solution. If nitrogen solution is nol used, apply 1 lb. per acre; add 1 pt. per 25 gals. of spray. Apply as a directed spray when is at feast 20" high and weeds are no taller than 3". DO NOT APPLY OVER TOP OF CORN. 00 not replant to *any* crop within 1 year. except that cotton, corn and grain sorghum may be planted the spring follOWing treatment.

Preemergence-Arkansas, Louisiana, Mississippi andTennessee; a sin-gle application of to 1 lb, per aCro as a broadcast or band trealment after planti-ng bafore corn eme(ges. Plant corn at least 1½" deep, 00 not replant treated areas 10 crops other than corn or cotton wilhin 4 months follOWing band treatment and 6 months following broadcast treatment ss crop injury may result.

conON
During a single crop season. do not lhe followlng amounts of lhis prod-uct acre as injury 10 subsequent crops *may* result: 1 lb.on loamy sand; 1½ lbs. on sandy loam: 2 lbs. on clay loam; lbs, on clay. InjUry *may* occur if lhis herbi. cide used in conjunction with soil-applied organic phosphale peslicides, Do not allow livestock to trealed callan.

Preplant-Arlzona and California: Use this product alone, or apply as a separate operation following preplant broadcast trealment wilh TRE or Trirturalin (Incorporaled according 10 directions on TREFLAN or Trifluralin lahel). Apply DIURON 80 WDG KILLER as a broadcast spray aller beds are formed, preirrigated, and final seedbeds prepa PIlar to planting, drag-off the tops of lhe beds and planl in moist soil not treated with this product. Treated soil is retumed 10 lhe bed attar planting when irrigation furrows are reformed after colton has emerged. If more than lwo fu(rowing-out operations are made prior to lay·by, or deep furrows are made early, control may be reduced in furrow bottoms, Use at the following

D1URON 80 WDG Alone: 1 to lbs. per acre.

OIURON 80 WDG FOllowing TREFLAN orTrifluralIn:

Soil Texture	Product Per Acre·Preplant TREFLAN or TriflluralIn 4 lbs.lgal.	DIURON 80 WOG 5 lbs.lgaf.
Sandy loam, loam, sill loam,	1	0.8 pl. .¾ to 1 lb.
Sandy ctay loam, clay loam, silly clay loam, sandy clay, clay	I ½ piS,	1.2 pis, 1 to 1¼ lbs.

Note; Seedling disease may weaken plants and increase lhe of injury from the use of TREFLAN or Trifluralin followed by DIURON 80 WDG WeED KILLER. These Ireatments should be used anly in conjunction a standard fungicide seed trealment plus a good supplemental soil fungicide program such as Caplan.peNS mixture.

Preemergencc-U.s., Arizona, California, and areas west of Inlerstate 35 or 35W In Texas and Oklahoma: Use this product alone or apply as a sepa-rate operation follOWing preplant trealment with TREFLAN or Trifluralin. Apply DIURON 80 WOG WEED KILLER planting before callan emerges. Do not treat in deep furrows as crop injury may use onty where collon is planted on flat or raiSed seedbeds.

Shallow incorporation (no deeper than ¼") a rotary hoe or similar equipment following planting usually improves results especially during dry weather. A wide press wheel should be used on the 10 provide a lavel seedbad for quent early season postemergence treatments, If moislure inSufficient to activate product or if soil becomes crusted before crop emerges, a rolary hoe-ing (no deeper than ½") should be weeds become established.

D1URON 80 WOG Alone: Make a single application as a broadcast or band using the following broadcast rates; for band trealment. use proporlionately less.

Soli Texture"	Lbs. OIURON 80 WDG Per Acre
Loamy sand ",,,,, " " "	'h
Sandy loam, loam, loam, silt	1
Sandy clay loam, clay loam. silty clay loam, sandy clay	1¼
Silty clay, clay , " "	2

" 00 not use on soils wilh less 1% organic matter as crop injury may resull.

DIURON 80 WDG Following TREFLAN or TrIlluralin Preplant; Apply TREFLAN or Trifluralin prior to planting as a broadca st or band treatmenl; incorporate accord-ing to dilections on TREFLAN or Tri1luralln label. As a operation, apply this product as a band trealment (14' to 20" wide) after planting but before collon emerge s. Use at the following broadcast rates; for band treatment, use proportion-less. See "Note" under Preplanl

	Product Per Acre Preplant Preemergence TREFLAN or TrIfluralin 4 lbs.lgal.	DIURON 80WDG 5 lbs.lgal.
Soil Texture"		
Loamy sand	½ pl.	0.4 pl. " ", /. lb.
Sandy loam, loam, sill loam,	1 pl.	0.8 pl. ."." .1 lb.
Sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, clay "... .	1½ pts	1.2 pis. ...1¼-2 lbs.

•• 00 nol use on soils wilh less 1% organic as crop injury *may* result.

Postemergence-U.S.: Apply only as a directed to cover weed foliage; adjust to minimize contact of colton leaves spray Or drift Or crop Injury *may* result. DO NOT SPRAY OVER TOP OF COTTON

6"
2"
rates;

Early

2" ¼ ½

2" Tall}	(Broadcast Basis)	
Annual grasses	.	½
Pigweed	.	¼

For controt of seedling perennial grasses such as johnsongrass and partial control of nutsedge or when weed growth is under drought slress or as high as 4", add 2 to 3½ lbs. disodium methanearsonale (DSMA; 63% anhydrous or eqUivalent) to above spray mixture. If DSMA is used. do not apply afledirsl bloom.

Late Season (Lay-By)—Apply 1 to 1½ lbs. per acre (1 to 2 lbs. in Arizona and California) when cation is at leasl 12" tall (at least 20" tall for Pima 5-2). For control of germinating weed seedlings. apply 10 soil beneath coUon plants and between rows immediately after lasl cultivation. In irrigated callao, best weed control is if lhe neld is irrigated within 3 10 4 days after application; wet the surface of the ground over the row to carry lhe herbicide into lhe root zone of germinating weeds Alternatively, for conlrol of emerged annual weeds (up to 4" in heightf lay-by time, make a single applicalion in combination with surfaclant (1 pl. per 25 gals. spray), or use to .lb. DIURON 80 WDG WEED KILLER (plus surfactant) per acre and repeat later if needed.

Replanting: If initial seeding to produce a sland, colton may be replanted in SOil treated preplant or preemergenca wllh lhis alone or followmg TREFLAN or Trifluralin. Wherever possible, avoid disturbing original bed. If necessary to rework soil replanting, use shallow cultivation such as discing; do nol relist nor move soil inlo origmal area. Plant at least I" deep. Do not retreat fiald a second preplanl or preemergence applicalion during the same crop year as injury to lhe crop may result.

SUbseqyent Crops:

OIURON 80 WDG-Type of Application	Crops That Follow Treated Cotton
Band preemergence or postemergence Band preemergence plus postemergance —or— Broadcasl praemergence (and preplantj —or— Broadcast preemergence plus band poslemergence	Any crop 4 monlhs after lasl applicalion Callan, soybeans. corn or grain sorghums (not sorgos or forage sorghums. nor grass sorghums) the nexl spring. Do not replant trealed areas to any other crop within one *year* lasl application as injury to SUbsequent crops may result.

DIURON 80 WDG Type of Applicatlon	Creps That May Follow Treated Cotton
Broadcasl (lay-by)	Collon, corn. grain sorghums (nol sorgos Or forage sorghums nor grass sorghums) the nexl spring. Do not replant trealed areas 10 any other crop within one year atter last application as injury to subsequent crops may ,esult.

For subsequent crops in fields where TREFLAN or Trifluralin is used, follow instructions on the TREFLAN or Tritturalin
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GRASS SEED CROPS (Perenniall: Except as noted, apply only to established planting s alleast 1 yr. old.

Colorado, Kansas, New MexIco, and Oklahoma: On sand blueslem, side oats grama and switchgrass, apply 2 to 3 lbs. per acra the dormant period shortly before weed seedlings emerge. 00 not apply aHer crop begins growlh in lhe spring as crop may result. In fields where ash residues have accumulaled from burning straw, 3 lbs. per acre; spread unburned chaff or straw a harrow or chopper before application

Western Oregon: On alta fescue. Astoria benlgrass, Highland bentgrass, Kentucky bluegrass [Merion bluegrass) and orchardgrass, apply 2 to lbs. per acre Oelober 1 and November 15. In fields where ash residues have accumulated from straw, use 3 to 4 [bs. per acre; splead chaff or straw with a harlOW or chopper before application. If perennial velvetgrass *(HoJcus lanatus)* is a problem. use 4 lbs. per acre. For best results, apply as soon as possible after fall rains start weeds (beyond 2 to 4 leaf stage) should be removed pnor to lreatment

Well established vigorous stands of sprlng-planled alta fescue. Kentucky bluegrass, and orchsrdgrass *may* be treated following fall prOVided the crop is planted before April 1 and trealment is not applied before 15; use lbs. per acre,

Oregon, For use in newly planted bentgrass, Chewing fescue, Kentucky bluegrass, perennial ryegrass, orchardgrass and tali fescue. During planting operation. spray AQUA NU-CHAR2 or GRO-SAFE3 or other suitable brands of activated charcoal as a I" band on soil surtace at rate of 300 lbs. per acre (broadcast basis; equivalent to 15 lbs. per acre of crop where row spacing is 20"). Mount nozzles 10 apply directly over seed rows to prevent crop injury. Follow with this herbicide as a single broadcast spray at rate of 2½ to 3 lbs. per acre; apply as soon as possible after planting but before crops or weeds emerge and before rains or sprinkler irrigation. Fall or spring planlings may be treated; basi results usually occur with early fall planlings. Trealment not conlrol downy brorne or wild oats.

Washlngton: For preemergence weed conlrol in newly seeded perennial grass seed crops.

DIURON 80 WDG WEED KILLER is recommended for use in newly planted bentgrass. perennial ryegrass, tall fescue, chewing fescue, Kentucky bluegrass, and orchardgrass fields for the control of weeds such as annual ryegrass, ratlail fescue, annual bluegrass (Poa annual), groundsel, mustard in western Washinglon. Treatment not control wild oals or downy brome.

Before Herbicide Treatment-Prepare a smooth. firm clod-free seed before planting. During tha planting operalion, spray AQUA NU CHAR or GRO-SAFE valed charcoal) as a I' on soil surface rate of 300 lbs. per acre [broadcast basis; equivalent to 15 tbs. per acre of crop where row spacing is 20"). Mount nOZzles to apply lhe activated charcoal directly over seed rows to prevent crop injury.

Herbicide Treatment-Make a single application of this herbicide as broadcast spray at the rate of 2½ to 3 lbs. per acre; use lower rate on lighter soils. Apply as soon as possible after planting but before crop or weeds emerge, and before rains or sprinkler irrigalion. Use a fixed-boom power sprayer properly calibraled 10 a constant speed and rale of delivery. Avoid ovarlapping of spray swath, and shul off boom while slarting, turning, slowing, or stopping or injury to the crop may result. Continuous agitation is required to keep the material in suspension.
Trealmenl may be applied to fall or spring plantings of grass seed crops; best results usually occur wilh early faU plantings. AlleasII' of overhead moisture (rain. fall or sprinkler agitation) necessa,y within weeks after trealment 10 activale the herbicide.

NOTES, Do not trealed areas to any crop within 2 years aller last applicalion as injury to subsequent crops may result.
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3 Reg. Irademark of ICI AmeTicas, Inc.

OATS (Drill-Planted)
Do not replanl Irealed areas to any within one year after last application as in) u'y 10 subsequent crops may resull.

Spring Oats-Idaho, Eastern Oregon, Eastern Washington: Use in areas whe,e average annual rainfall exceeds 16". Make a single application of 1 to 1½ lbs. per acre after planting, either before or efter oals emerge but within 6 weeks of planting. Best results are usually obtained when applicalion is made 3 to weeks after planting. Apply before weeds are 3"'0 tall,

Winter Oats and Mixtures with Peas or Vetch-Western Oregon and Western Washington; Make a single of 1½ to 2lbs. per ac'e as soon as possible aller planling but before emergence of the crop.

AUSTRiAN FIELD PEAS-WESTERN OREGON
For selective confrel of cerlain weeds in Austrian field peas in western Oregon. 1y, to lbs per acre as broadcast spray with air on ground equ as soon as possible after planting but before crop emerges for contlOt of weeds such as chickweed. shepherdspurse. wild mustard, f1ddleneck, lambsquarlers, pigweed and annual bluegrass. Use the lower rate on coarse-textured soils and the rate on fine-textured soils.
NOTES: Do not use this he'bicide on sand, sandy loam, gravelly or exposed subsoils or on soils having less than 1% orgenic mailer as crop injury may rcsult. Do not replant lreated area 10 another crop with,n one year of applicalion. Cmp injury may result if sevele winter stress, disease or insecl damage to the crop follows application.

PEPPERMINT-Pacific Northwest
Apply 3 lbs. per acre just after the last cultivation In the spring prior to emergence of peppermint. Do not apply 10 newly planled (less lhan 1 yea nor to emerged pepperminl as injury may result.

RED CLOVER-Western Oregon
Make a single application of two pounds per acre on established red clover stands (at least 9 months). Apply this prooucl When clover is dormant (October 15 10 December 15). Do nol apply lo seedling clover, and do not replant lreated area 10 any crop wilhin one year after last application.

Trealment will conlrol annual weeds such as bluegrass, chickweed. fescue, rye grass. and velvetgrass.

SORGHUM (GRAIN)—Southwestern States
Apply ¼ to lb. per acre; add 1 pl. surfactant per 25 gals. of spray. Apply as directed postemergence broadcast or nd spray after sorghum is 15" tall to control weeds to 4" in height DO NOT SPRAy OVER TOP OF SORGHUM Use the

2" 4"

½

½ ½

as

min-

½

in spray.

livestock.

If

Gaines

not

deep; do not treat wheat where winter climatic conditions have caused "heaVing" of plants; do not treat wheat plants lacking in vigor due to poor emergence, insecl damage, disease, high alkalinity or other causes: do not apply after wheat has reached the "boot" stage of maturity: do not use with surtactants. Do not replant treated areas to any other crop Within 1 year after lasl treatment (except as noted) as injury to subsequent crops may result.

"OSAMUL"

Idaho, Oregon and Washington-East of Cascade

Where Average Annual Rainfall Exceeds 16 Inches: Make a single application of 1 to 1½ lbs. per acre.

Fall Treatment: For early fall-planted wheat (seeded before September 10), apply 3 to 6 weeks after planting but before weeds are 3" to 4" tall. Treatment after October 1 has generally given besl results. Application should not be made after soil freezes in the fall. Wheat planted in late October should not be treated until the lowing spring.

3¾ of

Spring Treatment: Apply as soon as wheat starts to grow in the spring. Treatment made prior 10 April 10 usually give good resulls provided weed growth is less than 4" tall. Application laler than May 1 may give poor results.

Altarnatively, make a single application of ½ to 1 lb. of lhis product plus lb. bromoxynil per acre as a tank mixture, either in tho fall after wheat has emerged bul before freezes or in spring as soon as soillhaws; apply before weeds are 2" lall or across.

½ to

Areas where Average Annual Rainfall Is 10 to 16 Inches: After wheat is planted In the fall, make a single application of 1 10 1½ lbs. per acre when suffiClent moisture is available to germinate wheat seed. Apply before soil freezes and before weeds are 2" tall. Application later than March 1 may give poor results.

NOTE: If fall-planted wheat fails to grow due to winter or adverse growing conditions alter fa\! treatment, only fields treated before November 1 *may* be replanted to spring wheat. Spring wheat should not be planted before April 1, and only aller deep discing and plOWing 10 a depth of 4" to 6" prior to planting. Do not retreat field with a second application during the same crop year as injury to lhe crop may result.

Oregon and WaShington-West of Cascade Range: Make a single application of 1½ to 2lbs. per acre as soon as possible after planting; if wheat and weeds have emerged. apply before weeds are 3" to 4" tall. Alternatively, apply a tank of mixture

DIURON 80 WDG
EPA REG. NO. 34704-648

Range.*

2*

½-2 acre

1½

drift. in

SINBAR®

In
2

at 2 harvest

.... 1½ 1½

silt
1½ 1½

..... 2

PLANTAINS—New
½

tall,

12-

moved into

fruit

NOTE:

base

Georgia—Blueberries: ½
1

4

Massachusetts—Blueberries:

Jersey—Blueberries:
of 2½

Caneberries

Jersey

one

3%

.... .2 .. ...2½ +

Silt,

Sandy Clay
. 2½ + 2 . . 3 ι 2

Silty Clay,
Silty Clay
Loam, Clay,
Clay Loam 3 + 2 .... 3 +2

Apply uniformly by air Or with a sprayor properly calibrated 10 a constanl speed and rale of delivery. Use sufficient water (minimum or 25 gals, per acre with ground equipment or 5 10 10 gals. per acte by aircraft) to provide thorough and uniform coverage of ground. Spray booms must be shut off while starting, turning, slOWing, or stopping, or Injury to the crop may result. Avoid conlact of foliage and fruit with spray or mist.

NOTE: Do not use on salls containing less than 1% organic malter, nor on gravelly soils or eroded where subsoil or are exposed, nor on plants Ihat are diseased or lacking in vigor, as injury to Ihe planls may result. SINBAR·trealed may be planted to alfalfa. apples, blueberries, mint, peaches, strawberries, and sugarcane one year application. Do nol replant to other crops within two years last appllcalion as injury to those crops may result. Do not replant areas trealed SINBAR + DIURON 80 WDG WEeD KILLER to crops other than blueberries within two after applicalion, as injury to Ihose crops may tesull.

CITRUS

Use only undar trees established in Ihe for atleasl 1 year. Time application as indicated for specific areas, except application may be made any time of where or flood irrigation can be 10 aclivate Ihe Establ,shed perennial weeds require other special control Do apply under citrus trees that have been SUbjected to freezing within 6 months.

Yuma and Catifornla fmperlal and Coachella Valleys): Apply 3 to 4 lbs. per acre shortly after grove has been laid-Up in final form (nontillage program) in late fall or early winter. A1lernatively, apply 2 Lbs. per acre in

at

Rico:

to 2% 2%

DIU

Sandy ....1½+ 1½

Loam. silt
loam. sill . ...1½ + 1½ .. ..2·2

Clay toam, clay .. 2 + 2 " .. 2.2

Where crop is grown under furrow or under raised-berm flood irrigation (trees 4" 10 6" above waterline), apply only as a balld treatment. Do nol Ireat trees planted the boltom of furrows, nor Irees grown under flat floor or basin irrigalion, as injury 10 trees may Where complete weed control to harvest is desired, additional weed measures may be during the growing season.

Georgla—On Irees established for at least 2 years, apply 2 to 3lbs. per acre in Ihe spring. Repeat application In the fa/l bul do not exceed 5 lbs. per acre per year. Add surfaclant at 1 per 25 gals. .pray mixture to improve of smal" emerged weeds.

crop is grown under furrow irrigation or under raised-berm flood irrigalion (trees 4" to 6" above waterline), apply only as a band treatment. 00 not tteat trees planted in the bollom of irrigation furrows, nor Irees grown under flat flood or irrigation, as injury to trees may resul!. Where complete weed control to narvest is desired, additional weed control measutes may be required during the grOWing season.

PEARS
Use only under trees established in Ihe orchard for least 1 year; do not treal varieties grafted on full-dwarf root Apply 4 lbs. per acre in Ihe spring (March through May). In the far West, treatment may be made in (December through February), or apply 2 lbs. per *acte* as a postharvest treatment followed by 2 lb•. the spring.

PECANS
Use this product alOne or apply as a tank mixture wilh SINBAR, Make a single band or broadcast applical10n as a directed spray using a minimum of 30 gals. ot water per acre. Apply in the before weeds emerge or during Ihe early seedling slage of growth.

Lbs. Product Per Acre

Soil Texture	DIURON 80 WDG Alone"	-OR-	Tank Mixture DIURON 80WDG + SINBAR"'
Sandy loam	2	.	.....1½ + 1½
toam, silt loam, silt ..,	3		...1¾ + 1¾
Clay loam. clay	..4 ...	, ..	.. 2 + 2

" Use only on trees estabfrshed in grove fa' at least 3 years on soils with at leas! ½% organic mailer.
•• Use on trees established in Ihe grove for at least 1 year and on soils with al least 1% organic maUer,

NOTE: Do nol use on eroded areas where subsoil Or rools are exposed, nor on trees that are diseased or lacking in vigor or on trees planled in Irrigation furrows as injury to trees may result.

PINEAPPLE
Hawall and Florida-Apply 4 to 8 lbs. per acre as a broadcast spray jusl before or immediately afler planting bul prior to weed emergence. Use 4 lbs. pe' acre aller harvesting plant crop (for ratoon crop). for planl crop only, a second and broadcast or interSPace application may be made prior to differentiation at a rale of 2 lbs. per acre at inlervals of not less Ihan 2 months. Additional applications to plant crop may be made as needed to inlerspace only using 2 lbs. per acre, Do not apply more than 3 broadcast sprays 12 prior 10 differentiation nor more than 16 lbs. total per acre per plant crop. Treated areas may be planted to pineapple or sugarcane 1 year aile' last applicalion

Puerto Rico—Apply 3.75 to 6.25 lbs. par acra as a broadcast spray before or immediately after planling prior 10 weed emergence.

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to 4
when
6
½"
Grasses: vine-
4
(2" 4"
30". 4
have
as
se
2½
80

WALNUTS (Englsh}-Callfornia. Washington and Oregon
Use only under trees established in orchard for at teast 1 year. As an initial treal-ment, apply 3 to 5 lbs. per acre after the orchard has been laid up in tinal form 1illage program) in late fall or early winter; retreal annually with 2 10 3 lbs. per acre. Alternatively. apply 2 lbs. acre in Oclobel or November and repeat at same rate In March or April.

NOTE: Do not use on sand, gravelly soils or exposed subsoils, nor where organic malter is less than 1%. Do not graze livestock in treated orchards and groves.

ORNAMENTAL CROPS (See Soli limitations)

ORNAMENTAL BULB CROPS (Bulbous Iris, Narclssus)-Western Washington
Make a single application of 4 lbs. per acre. Apply after planting but no later than 4 weeks prior 10 bulb emergence (usually late September or October). Do not replant treated areas to any crop wilhin year after last application as in) ury 10 subsequent crops may result.

PLUMOSUS FERN-Florida
Hand weed and mow fern; then make a single application of lbs. per acre within 3 10 5 days. Do not cultivate or distUrb soil aller applicalion as crOp injury *may* result. Treat only established stands alleast 1 year old.

TREE PLANTINGS-Colorado, Montana, Nebraska, North Dakota, Soulh Dakota, Wyomlng
Use only under established planlings (1 year or older) of American elm, caragana, coltonwood, Douglas fir, green ash, honeysuckle, Ponderosa pine, redcedar, Russian olive and elm. 2½ to 5 lbs. per acre; apply as a band ft. wide in the tree row (2 on each side of row).
For example, oz. of this producttreats 135 ft. of tree row (2 ft. on each of row) the rate of 5 lbs. per acre. Apply as a directed in early spring betore weeds emerge and before trees leaf out. Do not apply to foliage of trees, nor trees growing in low areas injury to the trees may result.

NON,AGRICULTURAL USE REQUIREMENTS

The requirements in this apply IIses of Ihis product thal are NOT within the scope of Ihe Worker Protection Standard for agricullural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, foresls, nurseries, *or* greenhouses.
00 not enter Ireated area unlll sprays have dried.

PASTURES (See Soil Limitations)

BERMUDAGRASS PASTURES (Newly Spriggedl
Apply 1 to 3 lbs. after planting and before emergence of bermudagrass o' weeds. Alternaliysfy. for control *at* emerged annual weeds up to 4 in height, apply ½ to I lb. per acre; add pt. surfactant per 25 gals. of spray. If bermudagrass has emerged at time of trealment, temporary burn of exposed plant paris may occur.
Plant sprigs 2' deep in a well-prepared seedbed: do nollreal areas where sprigs are planled less than 2" deep as crop *may* resutt. Do nol graze or feed foliage from treated areas to liyestock within 70 days after application.

BERMUDAGRASS PASTURES (Eslabllshed)-Arkansas
Use in bermudagrass pastures in Arkansas to control annual blue-grass. chickweed, crabgrass, motninggto'y, pigweed, pursfane, ragweed, sandbur, and wild mustard.
Apply 1 to 3 lbs. per acre in early spring before weed emergence. Alternatively for control of emerged annual weeds up 10 4" in height, apply ½ to 1 lb. per acre; add 1 pl. of surfactant per 25 gals. of spray solution.
For ground preemergence application, use 25 to 40 gals. spray mixture per acre.
For ground postemergence application use sufficient volume (25 gals. per acre min-tor thorough of weed foliage.
For preemergence application by air, use 5 to 10 gals. spray mixture per acre Avoid overlapping of spray swath and application under conditions where excessive drift may
Do nol graze or feed foliage f'om trealed a to livestock within months aller application.

NON,CROP WEED CONTROL

ThiS product is an he'bicide for the of many annual and al grasses and herbaceous weeds of non-cropland area where bare ground is desired. The degree *at* control and duration of effecl wili vary with the amount of chemical applied, soil rainlall and olher conditions.

This herbicide *may* be used as a preemergence treatment at any time of Ihe year excepl when ground is frozen, provided adequate moisture is supplied by rainfall or artificial means to the herbicide. Best resulls are obtained if application is made to Ihe soil shortly belore weed begins. If dense growth is present. remove lops and spray the ground.

Increased contact activity on established weads may be obtained by the addition of surfactant at the rale of qts. per 100 gals. of spray mixture. Apply as a drenching spray to acUvely weeds during warm weather when daily lemperature will exceed 70"F.

small areas, use a power sprayer properly calibrated to insure a constant ,ale of application. Mix proper amount of this product inlo volume of water necessary to obtain uniform if surfactant is used. With 10 parts of water and add as last ingredient to nearly full Material must be kept in suspension at all Agitate by mechanical or hydraUlic means in the spray tank; if bypass or return line is used, it should terminale al bottom *at* tank to minimize foaming. Openings In-screen should be equal to or larger than 50 mesh.

General Weed Control: To control mosl weeds for an period or time on such as utility, pipeline and railroad right of ways, pelroleum tank farms, lumberyards, storage areas, industrial planl sighlS, around farm buildings-apply 5 10 20 lbs. per acre to oontrol most annua I weeds. Use 20 to 60 lbs. per *acte* for weeds; addilionaltreatment may be required where a longer period of control is desired or when ha,d-to-kill. deep-rooled perennial weeds such as johnsongrass are present. In low rainfall areas, this product may not provida sat-Isfactory control *of* deep-rooted perennial weeds.
For control on small areas, use ounces of Ihis per 100 sq. ft. for a dosage of approximalely 50 ibs. per acre.

Irrigation and Drainage D Apply to 20 lbs. per acre to conlrol most annu-at weeds; use 20 to 60 lbs. acre to control annual and perennial weeds. Apply only when waler not in tha ditoh. For irrigalion dilches, apply during the non-crop season, and diloh is nOl in use. To minimize movement of Ihis bicide wilh ir,igalion waler (to avoid possible crop injury), il;s essenliallhat the he'-blcide be fixed in the soil by moislure Apply before expected season rainfall (if pos-Sible) when soil in the ditch is still moist. Following treatment, if rainfall has nol talaled at leasl 4 inches, fill dilch with waler and ailow 10 stand for hours; drain and waste remaining water before using ditch. Do not ireal any dilch into which roots of trees or othe, desirable planls may exlend as injury may result.

ROADSIDE BERMUDAGRASS-oklahoma
DIURON 80 WDG WEED KILLER is recommended for use In bermudagrass on highway righl-of-ways for control of annual weeds such as barnyardgrass, crab-grass. kochis, lambsqusrters. pigweed, and ragweed.
a single of DIURON 80 WOG WEED KILLER either preeme'ge Or paste mergence to the weeds. Apply as a broadcasl treatment with a properly cali-brated boom .prayer using sufficiant amount of water (25 to 40 *pel* acre) to provide thorough and uniform Avoid overlapping shul spray boom while starting. turning, slowing. or stopping injury 10 the bermudag<ass *may* resull Continuous agitation as direcled on Ihe package label is required keep the maleriat in suspension.

Preemerge Treatment: Apply 210 4 lbs. DIURON 80 WDG WEED KILLER per acre before emergence of bermudagrass or weeds.

Postemarge Treatment: Apply 2 to 4 lbs. DIURON 60 WDG WEEO KILLER per acre seedling weeds up to 4" in height are present. Add surlactant at rale of 1 pt. per 25 gals. of spray mixture Use the lower rate on weeds up to 2' ta ll and higher rate on weedS 2" to 4"

Use the lower rates on light soils (sandy loam and loam) and the higher lates on heavy soils (clay loam and clays). Besl results are obtained if herbicide is moved into the root zone of germinating weeds by rainfall or irrigation wilhin two weeks of applicalion.

NOTES:
- If bermudagrass is exposed at time of Ireatment, lemporary burn of exposed plant parts may
  DIURON 80 WDG WEED KILLER conlrols weeds in the season and supplemenial mowing may be required later.
  00 not graze or feed foliage from treated areas to wilhin 70 days after application.

WARRANTY DISCLAIMER AND NOTICE

IT IS IMPOSSIBLE TO ELIMINATE ALL RISKS INHERENTLY ASSOCIATED WITH THE USE OF THIS PRODUCT. CROP INJURY, INEFFECTIVENESS, OR OTHER UNINTENDED CONSEQUENCES MAY RESULT DUE TO SUCH FACTORS AS WEATHER CONDITIONS, PRESENCE OR ABSENCE OF OTHER MATERIALS, OR THE MANNER OF USE *OR* APPLICATION, ALL OF WHICH ARE BEYOND THE CONTROL OF LOVELAND PRODUCTS INC., THE MANUFACTURER OR SELLER.

THE PRODUCTS SOLO TO YOU ARE FURNISHED "AS IS' BY LOVELAND PRODUCTS INC, THE MANUFACTURER DR SELLER, AND ARE SUBJECT ONLY TO THE MANUfACTURER'S WARRANTIES, IF ANY. WHICH APPEAR ON THE LABELS TO THE PRODUCTS SOLD TO YOU. EXCEPT AS EXPRESSLY PROVIDED HEREIN, LOVELAND PRODUCTS INC., THE MANUFACTURER OR SELLER MAKES NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE, WITH REGARD TO THE PRODUCT SOLO *OR* OF THE PRODUCT, INCLUDING, BUT NOT LIMITED TO, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. EXCEPT AS EXPRESSLY STATED HEREIN, LOVELAND PRODUCTS INC., THE MANUFACTURER OR SELLER MAKES NO WARRANTY OF RESULTS TO BE OBTAINED BY USE OF THE PRODUCT. BUYER'S OR USER'S EXCLUSIVE REMEDY, AND LOVELAND PRODUCTS INC:S, THE MANUFACTURER'S OR SELLER'S TOTAL LIABILITY, SHALL BE LIMITED TO DAMAGES NOT EXCEED-ING THE COST OF THE PRODUCT. NO AGENT OR EMPLOYEE OF LOVELAND PRODUCTS INC. OR SELLER IS AUTHORIZED TO AMEND THE TERMS OF THIS WARRANTY DISCLAIMER OR THE PRODUCT'S LABEL OR TO MAKE A

REPRESENTATION OR RECOMMENDATION DIFFERENT FROM OR INCONSISTENT WITH THE LABEL OF THIS PRODUCT.

IN NO EVENT SHALL LOVELAND PRODUCTS INC., THE MANUFACTURER OR SELLER BE LIABLE FOR coNSEQUENTIAL, SPECIAL DR INDIRECT DAMAGES RESULTING FROM THE USE. HANDLING, APPLICATION, STORAGE OR DISPOSAL OF THIS PRODUCT OR FOR DAMAGES IN THE NATURE OF PENALTIES AND THE BUYER AND USER WAIVE ANY RIGHT THEY MAY HAVE TO SUCH DAMAGES.

FORMULATED FOR

Loveland PRODUCTS INC

P.O. BOX 1286, GREELEY, COLORADO 80632·1286

Emergencies: 1-800-301-7976
U.S. Coast Guard National Response Center: 1-800-424-8802

PRODUCT NAME: DIURON 80 WDG WEED KILLER
CHEMICAL NAME: Diuron; 1-dimethylurea)
CHEMICAL FAMILY: Substituted Urea Herbicide
EPA REG. NO.: 34704-648
MSDS Number: 000648-04b-LPI MSDS Revisions: See section 16 Date Of Issue: *07/07/04* Supersedes: *05/12/04*

2. HAZARDS IDENTIFICATION SUMMARY

KEEP OUT OF REACH OF CHILDREN - CAUTION - CAUSES EYE IRRITATION. Do not get in eyes, on skin, or on clothing. Harmful if swallowed, inhaled, or absorbed through skin. Avoid breathing dust or spray mist.

This product is off-white to light brown granules with Virtually no odor.

3. COMPOSITION,INFORMATION ON INGREDIENTS

Chemical Ingredients:	Percentage bv Weight:	CAS No.	TLy Units
Diuron	80.00	330-54-1	*10 mglm^3*
Inert Ingredients	20.00		

4. FIRST AID MEASURES

Ifswallowed: Call a poison control center or doctor immediately for treatment advice. Have a person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

If in 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 for further treatment advice.

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control cenler or doclor for treatment advice.

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

NOTE TO PHYSICIAN: Adsorption of Diuron into .the body may lead to the formation of methemoglobin that. in sufficient concentration, causes cyanosis. Since reversal of methemoglobin occurs spontaneously after termination of exposure, moderate degrees of cyanosis need be treated only by supportive measures such as bed rest and oxygen inhalation. Thorough cleansing of the entire contaminated area of the body, including scalp and nails is of utmost importance. If cyanosis is severe IV injection of methylene blue @ 1 mglkg of body weight, may be of value. Cyanocobalamin (Vitamin B_{12}) @ 1 mg intramuscularly may speed recovery. IV fluids and blood transfusions may be indicated in very severe exposures.

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-800-301·7976. Have the product container or label you when calling a poison control center or doctor, or going for treatment.

5. FIRE FIGHTING MEASURES

FLASH POINT (DFITest Method): Does not flash.
FLAMMABLE LIMITS (LFL & UFL): None established
EXTINGUISHING MEDIA: Dry chemical, carbon dioxide, foam, water spray or fog.
HAZARDOUS COMBUSTION PRODUCTS: Oxides of nitrogen and other unknown hazardous material may be formed in a fire situation. of carbon andlor other asphyxiants may be formed from incomplete combustion.
SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus and full protective clothing.
UNUSUAL FIRE AND EXPLOSION HAZARDS: If water is used to fight fire. contain runoff, using dikes to prevent contamination of water supplies.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
Control the spill at its source. Sweep up material and place in a container for possible land application according to label use or for proper disposal. Check local, stale and federal regulatlons for proper disposal.
CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies afwater.

7. HANDLING AND STORAGE

HANDLING: Wash hands before eating, drinking, chewing gum. using tobacco or using the toilet. Remove clothing 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.

STORAGE: Store product in original container only, away from other pesticides, fertilizer, food or feed. Don not contaminate water, food or feed by storage or disposal.

Personal Protecli'le Equipment: Applicators and other handlers must wear: long sleeved shirt and long pants, chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride, and shoes plus socks. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

8. EXPOSURE CONTROLS JPERSONAL PROTECTION

ENGINEERING CONTROLS: When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets with requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40CFR 170.240 (d)(4-6)1, the handler PPE requirements may be reduced or modified as specified the WPS.

RESPIRATORY PROTECTION: Not normally required, if dusts or mists exceed acceptable levels, wear a NIOSH approved respirator with cartridges and dust pre-filters for pesticides.

EYE PROTECTION: Chemical goggles or shielded safety glasses.

SKIN PROTECTION: Wear protective clothing: long-sleeved shirts and pants. shoes plus socks. Wear waterproof gloves.

	OSHA PEL 8 hr TWA	ACGIH TLV-TWA
Diuron	not listed	*10 mglm*^{3}
Nuisance PartiCUlates	15 mg/m^3 (total dust)	not established

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Off-white to light brown granules with Virtually no odor.

SOLUBILITY: Disperses

SPECIFIC GRAVITY (Water" 1): 0.48-0.64 g/ml

BULK DENSITY: 30-40 lbs/ft^3

pH: Not established

VAPOR PRESSURE: Not applicable

BOILING POINT: Not applicable

PERCENT VOLATILE (by volume): Not applicable

EVAPORATION RATE: Not applicable

Note: These physical data are typical values based on material tested but may vary from sample 10 sample. Typical values not be construed as a guaranteed analysis of any specific lot or as specification items.

10. STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID: Excessive heat and moisture.

INCOMPATIBILITY: Strong acids.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of nitrogen and other unknown material may be formed in a fire situation. Oxides of carbon and/or other asphyxiants may be formed from incomplete combustion.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Oral LO_{IO} (rat): 2900 mglkg

Acute Dermal LD_{IO} (rabbit): >2000 mglkg

Eye Irritation (rabbit): Moderate eye irritant

Skin Irritation (rabbit): Mild skin irritant

Inhalation LC_{IO} (rat): >5.27 *mg/L* (4 hr).

Skin Sensitization (guinea pig): Not established

Carcinogenic Potential: None listed in OSHA, NTP or IARC: ACGIH (TLV-A4): Not classifiable as Human Carcinogen

Target Organs: Diuron: eyes, skin, respiratory system, and blood.

12. ECOLOGICAL INFORMATION

For terrestrial uses, do not apply directly to water, or to areas where surface is present or to intertidal areas below the mean high water mark. Runoff and drift from treated areas may be to aquatic organisms in neighboring areas. Do not apply when weather conditions favor drift from target area as desirable trees or other plants may be lost. Do not contaminate any body of water. Keep from contact fertilizers, insecticides, fungicides and seeds.

13. DISPOSAL CONSIDERATIONS

Do not reuse product containers. Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or if allowed by State and local authorities, by burning_ If bag is burned, slay out of smoke. Open dumping is prohibited. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

14. TRANSPORT INFORMATION

DOT Shipping Description: NOT REGULATED BY USDOT

U.S. Surface Freight Classification: COMPOUND, TREE OR WEED KILLING, NOI (NMFG 50320. SUB 2:CLASS: 60)

Consult appropriate leAO/IATA and IMDG regulations for shipment requirements in the Air and Maritime shipping modes.

Hazard

will their own determination as to its suitability for their purposes to use.

The product covered by this information sheet is furnished "as is· by Loveland Products, Inc., the manufacturer or the seifer, and is SUbject only to the warranties. ir any. that appear on the product's label or are otherwise expressly provided herein.

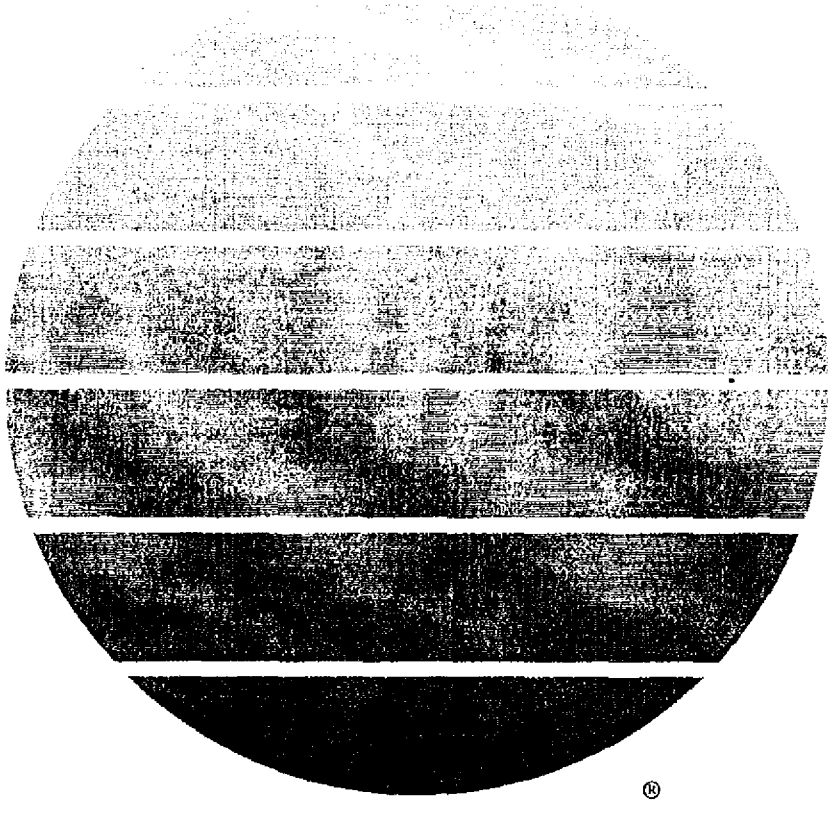
Except as expressly provided on the product's label or otherwise provided herein, no warranties, guarantees, or representations of any kind, either express or implied, or by usage of trade, statutory or otherwise, are made by Loveland Products, Inc., the manuracturer or the seller with regard to the product or use of the product, including, but not limited 10, merchantability, fitness for a parlicular purpose. use or eligibility of the product ior any parlicular trade usage.

Except as expressly stated herein, Loveland Products, Inc., the manufacturer or the seller makes no warranty of results to be obtained by use or the product covered by this infonnalion. Buyer's or user's exclusive remedy, and the tolalliabilily of Loveland Products, Inc., the manuracturer or the seHer, shall be limited to damages not exceeding the cost of the product No agent or employee of Loveland Products, Inc., the manufacturer or the seller is authorized to amend the terms of this warranty disclaimer or the product's label or to make a representation or recommendation different from or inconsistent with the label or this product

IN NO EVENT SHALL LOVELAND PRODUCTS, INC., THE MANUFACTURER OR THE SELLER BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE, HANDLING, APPLICATION, STORAGE OR DISPOSAL OF THIS PRODUCT OR FOR DAMAGES IN THE NATURE OF PENALTIES AND THE BUYER AND USER WAIVE ANY RIGHT THEY MAY HAVE TO SUCH DAMAGES.

DuPont™ Escort® xp

herbicide



“ A Growing Partnership With Nature"

1,3,5-triazin-2-yl)amino]-carbonyl}amino]sulfonyl]benzoate	60%
I	40%
TOTAL	[00%

EPA Reg. No. 352-439

KEEP OUT OF REACH OF CHILDREN

CAUTION

Si no entiendc In busque a alguien para que se la cxplique a en detallc. (If you do not this someone to explain it to you in detail.)

FIRST AID

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

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 for further treatment lldvicc.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-441-3637 for emergency medical treatment information.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION! Causes eye Avoid contact with skin. eyes or clothing. Avoid breathing dust or spray mist.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers mnst wear:

Long-sleeved shirt and long pants.

Shoes socks.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, lise detergent and hot water. Keep and PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

USERS SHOULD: Wash hands before eating, driJlking, chewing gum, using tobacco or using the toilet.

ENVIRONMENTAL HAZARDS

Do not apply directly to water, or to where water is or to intertidal below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

This herbicide is injurious to plants at extremely low concentrations. Nontarget plants may be adversely effected from drift and [un-off.

of desirable trees or other plants may result if the precautions listed below are not followed.

- Do not apply DuPont™ ESCORT® XP (except as recommended). or drain or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend or in locations where the product may be washed or moved into contact with their roots.
- Do not use on lawns, walks, driveways. tennis courts, or similar areas.
- Prevent drift of spray to desirable plants.
- Do not contaminate any body of water. including irrigation water.
- Keep from contact fertilizers. insecticides, fungicides and eeds.

Low ratcs of ESCORT® XP can kill or severely injure most crops. Following an ESCORT® XP application, the use of spray equipment to apply other pestiCides to crops on which ESCORT® XP is not registered may result in their damage. The most effective way to reduce this crop damage potential is to use mixing and application equipment.

GENERAL INFORMATION

ESCORT® XP herbicide a dispersible granule that mixed in water and applied as a spray by or aerial application.

ESCORT® XP is"recommended for the control of annual and perennial weeds and unwanted woody plants on private, public and military lands. on rights-of.way, industrial sites, non-crop areas. ditchhanks of dry drainage ditches, types of unimproved turf grass, and conifer and hardwood plantations, including grazed areas on these sites. Do not use on irrigation ditches.

ESCORT® XP controls weeds and woody plants primarily by postemergent activity. Although ESCORT® XP has preemergence activity, best are generally obtained when ESCORT® XP applied to after emergence of dormancy break. Generally. for the control of annual weeds. ESCORT® XP provides the best results when applied to young, actively growing weeds. For the control of perennial weeds, applications made at the bud/bloom stage or while the target weeds are in the fall rosette stage may provide the best results. The lise rate depends upon the weed and size at the time of application.

The degree and duration of control may depend 011 the following:

- weed spectrum and infestation intensity
- weed size at application
- environmental conditions at following treatment
- soil pH, moisture. and organic matter.

ESCORT® XP may be applied on conifer and hardwood plantations, and nOIl·crop that contain of temporary surface water caused by the collection of water between planting beds, in equipment ruts, or in other depressions created by management activities. It is permissible to treat intermittently flooded low lying sites, dry flood plains and transitional between upland and lowland sites when no water is present. It is also permissible to treat marshes, swamps and bogs after water has receded as well as seasonally dry flood deltas. DO NOT make applications to natural or man-made bodies of water such as lakes, reservoirs, ponds, streams and canals.

ENVIRONMENTAL CONDITIONS AND BIOLOGICAL ACTIVITY

ESCORT® XP is absorbed primarily through the foliage of plants, and by the roots to lesser degree. Plant cell division generally inhibited sensitive plants within a few hours following uptake. 1\vo to 4 weeks after application, leaf growth slows followed by discoloration and tissue death. The final affects on annual weeds are evident about 4 to 6 weeks after application. The ultimate affect on perennial weeds and woody plants occurs in the growing season following application.

moist conditions [allowing treatment promote the activity of ESCORT® XP, while cold, dry conditions may reduce or delay activity. Weeds and brush hardened off by cold weather or drought stress may not be controlled.

The use of a surfactant recommended to enhance the control of susceptible plants, except where noted. Apply at a minimum ratc (concentration) of 1/4% volume/volume (I quart per 100 gallons of spray solution), or at the manufacturer's recommended rate. Use only EPA approved surfactants containing at least 80% ingredient. Certain types of surfactants, such as those acetic acid (i.e. LI- 700), may not he compatible with ESCORT® XP and may result in decreased performance. Certain surractants may not he suitable for use on desirable plants. such as lurf and conifers, listed on this Consult the surfactant manufacturer's label for appropriate uscs.

Weed and brush control may be reduced if minfall soon application.

RESISTANCE

When herbicides that affect biological of action are used repeatedly over same years to the same weed species in the same field, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment. control propagate, and become dominant in that field. Adequate control of these resistant weed bintypes cannot be expected. If weed control is unsalisfactory, it may be necessary to retreat problem area using a product affecting a different site of action.

To better manage herbicide resistance through the proliferation and dominance of herbicide resistant weed biolypes, it may be necessary to change cullural practices within and between crop seasons such as using a combination of tilIage, retrcatmcnl, tank-mix partners and/or sequential herbicide applications that have a differenl sitc of action. Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes.

It records applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural dealer, consultant, applicator, and/or appropl;ate state agricultural extension service representative for specific altemative cultural practices or herbicide recommendations available in your area,

INTEGRATED PEST MANAGEMENT

This product may be used as part of an Integrated Management (lPM) program that can include biological, culturaL and genetic practices aimed at preventing economic pest damage. IPM principles and practices include field scouting or other detection methods, correct target pest identification. population monitOling, and treating when target populations reach locally detennined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to appropriate action treatment threshold levels for specific pest/crop systems in your area.

DIRECTIONS FOR USE

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

DuPont™ ESCORT® XP should be used only in accordance with recommendations on lhis label or in separately published DuPont recommendations.

DuPont will not be responsible for losses or damages resulting from the use of this product in manner not specifically recommended by DuPont. User assumes all risks associated with such non-recommended use.

Do not apply than 4 ounces of ESCORT® XP per acre per year.

Do not use on food or feed crops except as recommended by this label or supplemental labeling.

Do not this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers be in the area during application.

For any requirements specific to your State or Tribe, consult the agency in your State responsible for pesticide regulation.

TANK MIXES

ESCORT® XP may be tank mixed with other herbicides registered for the usc sites described in this label. Use only those tank mix partners which are labeled for the appropriate usc site. When tank mixing. usc the most restrictive labellirnitations for each of the products being used in the tank mix.

AGRICULTURAL USES

AGRICULTURAL USE REQUIREMENTS

Use this product only in with labeling and with the Worker Protection Standard, 40 CFR part 170.

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 Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard involves contact with anything that has been U'cated, such as soil, or water is:

Coveralls

- Shoes plus socks

CONIFER PLANTATIONS

Application Information

ESCORT® XP is for the control of many species of weeds and deciduous trees 011 sites where conifers are growing or arc to be planted. Apply by ground equipment or by air (helicopter only). Refer to the "Weeds Controlled" and "Brush Species Controlled" for a listing of susceptible species.

Application Timing

Apply ESCORT® XP after weeds have emerged or undesirable hardwoods broken winter donnancy and have reached the point of full leaf expansion.

Conifer Site Preparation --Application Before Transplanting

After consulting the "Wecds Controlled" and "Brush Species Controlled" tables. apply the rates of ESCORT® XP recommended for the most difficult to species on the site.

Southeast-Apply up to 4 ounces per acre for loblolly and slash pines. Transplant the following planting season.

Northeasl and Lake Sinies-Apply up to 2 ounces per acre for red pine. Transplant the following planting season. Apply up 2 ounces per acre for black, white and Norway spruce. Transplant the following spring.

West-Apply up to 2 ounces per acre to planting Douglas Fir, Sitka Spruce, Western Red Cedar, Western Ponderosa Pine, Fir in the Rangeland and western slope of the Cascades in Oregon and Washington. These conifer species listed can be planted anytime after Other conifer species can be planted providing user has prior experience acceptable tolerance to ESCORT® XP soil residues.

arc made as injury may occur. DuPont will not assume responsibility for injury to any conifer species not listed on this label.

Tank Mix Combinations-

For broader specuum control, the following products are recommended in combination with DuPont™ ESCORT® XP.

Glyphosate (4 pound active per gallon)

Tank mix I to 2 ounces of ESCORT® XP with 2 to 10 quarts of glyphosate per acre. Refer to the product container for a list of species controlled.

Imazapyr (4 pound active per gallon)

Tank mix 1 to 2 ounces of ESCORT® XP with 10 to 24 fluid ounces of ,'pyr per acre. Loblolly and pines may be transplanted [he planting season following application. This combination controls ash, black gum, cherry, hawthorn, honeysuckle, hophomheam, persimmon, oaks (red. white and water). sweetguin. Vaccinium species, and suppresses blackberry, dogwood, elms, myrtle dahoon. hickories, and red maple.

Glyphosate (4 pound active per gallon) + Imazapy.. (4 pound active per gallon)

Tank mix 1/2 to 1 ounce of ESCORT® XP with 16 to 64 fluid ounces of glyphosatc and 10 to L2 fluid ounces of imazapyr per acre. SLash and loblolly pines may be transplanted the planting season following application. This combination controls cherry, dogwood, elms. oaks (red and water), persimmon, sassafras, sweetgum and suppresses hickory.

DuPonflM VELPAR® L or VELPAR® DF

Tank mix 1 to 2 ounces of ESCORT® XP per acre with VELPAR® L or VELPAR® DF at the rates recommended on the container for various soil textures. Loblolly and slash pines may be transplanted the planting season following application. Refer to the product container for a list of controlled.

DuPont™ OUST® EXTRA

Tank mix 1/2 to 1 1/2 ounces of ESCORT® XP with 2 to 3 ounces of OUST® EXTRA per acre for herbaceous weed control. to the product container and the "\Veeds Controlled" section of this label for a listing of the weeds controlled. Loblolly and slash pines may bc transplanted the planting season following application. Tank mix 2 ounces of ESCORT® XP with 3 ollnces of OUST® EXTRA per aCle for herbaceous weed control and early spring suppression of hull thistle and Canada thistle the Rangeland and western slope of the Cascade Mountains. Douglas fir may he transplanted at least 90 following application.

Release--Hardwood Control and Suppression

ESCORT® XP is recommended for application over the top of established slash and loblolly pine to control the species listed in "Weeds Controlled" and "Brush Species Controlled" section of this label. Apply I to 4 oUllces per acre to control the species indicated, including kudzu.

Tank Mix Combinations-

For broader spectrum control the following products are recommended in combination with ESCORT® XP.

Imazapyr (4 pound active per gallon)

Tank mix I to 2 ounces of ESCORT® XP with 8 to 16 fluid ounces of imazapyr per acre for application lo loblolly pine, Refer to the imazapyr label regarding the usc of surfactants and the appropriale application timing with respect to the age and development stage of the pines. This combination controls ash, black gum, cherry, hawthorn, honeysuckle, hophornbeam. oaks (red, white and water), sassafras, sweetgum, Vaccinium species, and suppresses blackberry. dogWOOd. elms. myrtle dahoou. hickories. persimmon. and red maple.

VELPAR® L or VELPAR® DF

Taak 1 to 2 ounces of ESCORT® XP with VELPAR® Lor VELPAR® DF at the rates recommended on the container for various soil textures. combination be applied to amI slash pines.

Release--Herbaceous Weed Control

ESCORT® XP may be applied to traasplantcd loblolly and pine for lhe control of herbaceous competiti<lll. the "Weeds Controlled" for a listing of the species and recommended application rates. Best results are obtained when ESCORT® XP is applied just before weed emergence until shortly after weed emergence.

Tank Mix Combinations-

For broader spectrum control the following products are recommended in combination with ESCORT® XP.

Imazapyr (4 pound active per gallon)

Tank 1/2 to 1 oonce of ESCORT® XP with 4 fluid ounces of imazapyr per acre. The tank mix may used on loblolly pine. •

VELPAR® L or VELPAR® IlF

Tank 112 to I ouoce of ESCORT® XP with VELPAR® L or VELPAR® DF at the rates recommended on the container for soil textures. This combination may he applied to loblolly and pines.

Release - Directed Spray in Conifers

Western US

To release conifers from competing brush species. such as, blackberry, salmonberry. snowberry, thimbleben)1 and wild roses. mix 2 to 4 ounces of ESCORT® XP per 100 gallons of spray solution. Direct spray onto the of competing brush using a knapsack or sprayer. For best results. apply any time after the brush species have reached fullicaf stage but before autumn coloration. At application. the majority of the brush species should be less than six feet in height lo help ensure spray coverage. Thorough coverage of the target foliage is necessary to optimize results. Care should be taken to direct the ESCORT® XP away from the conifer foliage.

and
conifer foliage. The use of a surfactant with ESCORT® XP may improve brush control results. When using a surfactant with ESCORT® XP. extra precaution must be taken to avoid contact with conifer foliage. Excessive drift onto conifers may resull in severe injury.

IMPORTANT PRECAUTIONS -CONIFER PLANTATIONS ONLY

Applications of ESCORT® XP made to conifers that arc suffering from loss of vigor caused by insects, diseases, drought. winter damage, animal damage. excessive soil moisture, planting shock, or olher stresses may injure or kill the trees.

Applications of ESCORT® XP made for herbaceous release should only he made after adequate rainfall has closed the planting slit seUled the soil around the following transplanting.

Do not apply ESCORT® XP to conifers grown as ornamentals.

ESCORT® XP applications may result in damage and mortality to other species of conifers when they are present on sites with those listed in the preceding recommendations for conifer plantations.

HARDWOOD PLANTATIONS

Application Information

ESCORT® XP is recommended at rates of up to 2 ounces per acre for the control of many weed species on sites where yellow poplar is growing or is to be planted. and on sites where red alder is to be planted. Apply by ground equipment or by air (helicopter only), Refer to the "Weeds ControJled" sections of this label for a listing of susceptible species.

Application Timing

ESCORT® XP may be applied as a site preparation treatment prior to planting red alder or yellow poplar. As a prior to planting preparation treatment for red alder, ESCORT® XP may be tank mixed with other herbicides labeled for this use.

ESCORT® XP may he applied over-the-top of planted yellow poplar seedlings after the soil has settled around the root system. but before the seedlings have broken dormancy (prior to bud break).

ReIease--Herbaceous Weed Control

ESCORT® XP may be applied to yellow poplar for the control of herbaceous competition. Consult the "Weeds Controlled" for a listing of the susceptible and recommended application rates. Best results are obtained when ESCORT® XP is applied just weed emergence until shortly emergence.

Tank Mix Combinations-

Taok mix 1/2 ounce of ESCORT® XP with 4 to 6 of DuPont™ VELPAR® as recommended 00 thc for "RELEASE--HERBACEOUS WEED CONTROL" io pine plantations in the eastern U.S. Follow the VELPAR® L label recommendations regarding altering the application rate by soil texture.

IMPORTANT PRECAUTIONS -HARDWOOD PLANTATIONS ONLY

Application of VELPAR® L ESCORT® XP made to yellow poplar that are suffering from of vigor caused by insects, disease, drought, winter damage, animal damage, excessive soil moisture, planting shock or other stresses may injure or kill the seedlings.

AppJications of ESCORT® XP made for release should only he made after adequate rainfall has closed the planting slit and seuIcd the soil around the roots following transplanting.

The use of surfactant is not recommended for applications made over the tops of trees.

Careful consideration must be given by an experienced and knowledgeable forester to the requirements of yellow poplar andlor red to the conditions of the site. Treatment of yellow andlor red alder on a inadequate to meet its requirements may injure or kill seedlings.

NON-AGRICULTURAL USES

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply 10 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 on farms. forests, nurseries, or greenhouses,

Do not enter or allow oLhers to enter the treated area until sprays have dried.

Non-crop industrial weed control and selective weed control in turf (industrial, unimproved only) are not within the scope Or the Worker Protection Standard.

NON-CROl'SITES

Application Information

ESCORT® XP recommended for general weed control on private, and military lands as follows: Uncultivated nonagricultural areas (such as airports. highway. railroad and utility way, sewage disposal areas, etc.); uncultivated agricultural - producing (such as farmyards, fuel storage areas, fence soil bank land, barrier strips. etc.); industrial sites - olltdoor (such lumberyards, pipeline and tank farms, etc.) including on these sites. It is also recommended for the control of certain noxious andtroublesome weeds.

Consult the "Weeds Controlled" and "Bmsh Species Controlled" tables Lo detennine the appropriate rate.

ESCORT® XP may be applied in tank mixture with other herbicides labeled for use on non-crop Fully read the labels and follow all directions and restrictions on each label.

volume

DuPont™

It may be used where blue grama, bluestcms little, plains, sand. ww spar) bromegrasses (meadow), buffalograss, green sprangletop. indiangrass, kleingrass, (alherslone, weeping. wilman), orchardgrass, sideoats grama, switchgrass (blackwell), whcatgrass (bluebunch, intermediate. pubescent Siberian, streamband. tull. thickspike, western). and Russian wildrye are established. It may also be applied over thcse in the seedling stage, except for orchardgrass and Russian wildrye.

Application Infonnation

Apply ESCORT® XP at the rute of 1110 (lunce pCl' acre for the control and suppression* of bur buttercup (tcsticulate), comlllOI) purslane. common sunt1ower*, cutleaf eveningprimrose*, nixweed*, lambsquarters* (common and slimleaf), marestail*, pigweed (redroot and tumble), speedwell, and tumble mustard (Jim Hill mustard).

* Suppression is a visual reduction in weed competition (reduced population or vigor) as compared to untreated areas. Degree of suppression will vary with the size of weed and environmental conditions following u·catmcnt.

Application Timing

For established grasses, apply when weeds arc in the seedling stage.

For grasses in the seedling stage, apply preplant or preemergence where the soil (seed bed) has been cultivated.

IMPORTANT PRECAUTIONS

-NATIVE GRASSES

- Grass species or varieties may differ in their response to various herbicides. If no information is available, limit the initi<ll use of ESCORT® XP to small area. Components in a grass seed mixture will vary in tolerance (o ESCORT® XP, so the final may not reflect the seed ratio.
- Under certain conditions such as heavy rainfall. high pH, prolonged cold weather, or wide fluctuations day/night temperatures prior to or soon after ESCORT® XP application, temporary discoloration and/or grass injury may occur. ESCORT® XP should not be applied to grass that is stressed by severe weather conditions. drought, low fertility. water-saturated soils, disease, or insect damage as injury may result. Severe winter drought, disease, or insect damage before or following application also may result in injury.

GRASS REPLANT INTERVALS

Following an application of ESCORT® XP to non-crop areas, the treated sites may be replanted with various species of grasses at the intervals recommended below.

For soilswith a pH of 7.5or less observe the following replant intervals:

Species	Rale (ounces per acre)	Replant Interval (months)
Brmlle, Meadow	112-1	2
	1-1	3
Brome. Smooth	tl2-1	2
	1-2	4
Fescue. Alta	1/2-1	2
	t-2	4
Fescue. Red	112 1	2
	l—2	4
Fescue, Sheep	1/2—l	l
	l—2	4
Foxtail. Meadow	1/2-1	2
	1-2	4
Green Needlegrass	112 2	l
Orchurdgrass	1/2 l	2
	1-2	4
Russian wildrye	112-t	1
	l	2
	2	3
Switchgrass	1/2 l	l
	1-2	3
Timothy	\12-1	2
	l—2	4
Western	112-t	2
	1-2	3

For soils with a pH of 7.5 or greater observe {he follOWing replant intervals:

Species	Rate (ounces per acre)	Replant Interval (months)
Alkali	112-1	l
	l—2	3
Bluestein, Big		3
Brome. Mountain	1/2-1	t
	1-2	2
Grama, Blue	1/2--2	
Grama,	1/2	2
	>1/2	>3
Switchgrass	1/2	2
	>1/2	>3
Wheatgrass, Thickspike	1/2--2	
Wheatgrass. Western	t-2	2
	112-1	3

The recommended intervals are for applications made in the Spring to early Summer. ESCORT® XP degradation is slowed by cold or frozen soils. applications in the late Summer or Fall should consider the intervals as beginning in the Spring following trcalmenl. Testing has indicated that there is considerable variation in response among the species of grasses when seeded into areas treated with ESCORT® XP. ff species other than those listed above are to be planted into areas treated with ESCORT® XP. a flcld bioassay should be performed, or previous experience may be used, to detennine the feasibility of replanting treated sites.

Big	Blackwell
Little	-
Plains	bluehurlch
Sand	crested
W W spar	intermediate
Buffalograss	pubescenl
Green sprangletop	Siberian
Kleingrass	slender
--	steambank
Atherstone	tall
Sand	thickspikc
Weeping	western
Wilman	Wildrye -
Orchardgrass	Russian

Maximize potential for grass establishment by consulting with Ihe Natural Resource-and Conservation Service of other government agencies or local experts concerning planting oLher cultural from ESCORT® XP may not always be satisfactory due to the inability of newly planted stands to sufficiently compete with weeds, and the severity of weed pressure in new grass stands.

An additional herbicide application or mowing may be needed,

Use Rates and Application Timing for Grass Establishment **Preplant** (prior to planting) or Preemergence (after planting but before grass emergence)

Do nol usc more than II 10 ounce per acre of ESCORT® XP for establishment.

Apply ESCORT® XP at III 0 ounce per acre on labeled grasses except orchard and Russian wildrye grass. Do not apply ESCORT® XP preplant or preemergence to orchardgrass and Russian wildryc grass as severe injury may result.

Early postemergence to new plantings

Apply ESCORT® XP at III 0 ounce per acre, plus a non-ionic surfactant at the rate of 2 to 4 per 100 gallons of solution on all labeled grasses anytime after grass emergence.

Do not lise a spray adjuvant other than non-ionic surfactant. Because grass species differ in time of emergence. apply only after the majority of grasses are in the 3 to 4 leaf stage.

Postemergence to stands with 1 - 5 leaf grasses the previous season

Apply ESCORT® XP at 1/10 ounce per acre plus a nOI1-ionic surfactant at tile rate of 2 to 4 pints per !00 gallons of spray solution. on alliabcled grasses when the majority of the grasses have one or leaves.

Do use a spray adjuvant other than non-ionic surfactant.

APPLICATION **INFORMATION** FOR ESTABLISHED GRASSES

Use Rates for Established Grasses

Apply up to Jounce ESCORT® XP per acre as a broadcast application to established grasses. For spot applications, use I ounce per 100 gallons of water. Do not apply more than I 213 ounces of ESCORT® XP per acre per year.

Refer to the Weeds Controlled section of this lahel for a listing of the weeds controlled by ESCORT® XP and the appropriate use rate to obtain control.

Application Timing - Established

ESCORT® XP may be applied to established native grasses as bluestems and grama, and on other established grasses as bermudagrass, bluegrass, 'orchardgrass, bl'Omegrass, fescue and timothy tha[were planted the previous growing season (or earlier) and fully tillered, unless otherwise directed on this label. SpecifiC application timing information on severul of these grass species follows:

Grass	Minimum time from Grass establishment ESCORT® XP application
Bermudagrass	2 monfhs
Bluegrass, bromcgrass,	6 months
Timothy	12 months
Fescue	24 monlhs

Fescue Precautions:

Note that ESCORT® XP temporarily tall fescue, cause it to turn yellow, or cause seedhead suppression, To minimize these take the following precautions:

- Do nor use more than 4/1 0 ounce per acre of ESCORT® XP
- Tank mix ESCORT® XP with 2A-D
- Usc the lowest recommended rate for targel weeds
- Use a non-ionic at 1/2 to I pint per 100 gallons of spray solution
- Make application laler in spring after the new growth 5'10 6 inches tall, or in the fall
- Do not use surfactant when liquid nitrogen is used a carrier
- Do not use a spray adjuvant other than non-ionic surfactant

The first cutting yields may be reduced due to seedhead suppression resulting from treatment with ESCORT® XP.

Timothy Precautions:

Timothy should be at least 6 inches tall at application and be actively growing. Applications of ESCORT® XP to timothy under any other conditions may crop yellowing *3nd/or* stunting. To minimize these symptoms, take the following precautions:

- Do not usc more than *4/10* ounce per acre ESCORT® XP
- Tank mix ESCORT® XP with 2, 4-D
- Use the lowest recommended rate for weeds
- a non-ionic surfactant at *1/2* pint per 100 gallons of spray solution *(1116%)*
- Make in the late summer or fall
- OO not usc surfactant when liquid nitrogen llsed a carrier
- Do not llse spray adjuvant other than surfactant

Application of ESCORT® XP to Pensacola bahiagrass, ryegrass (Italian or perennial) and Garrison's creeping foxtail may cause injury to and/or of forage.

to herbicides. When using DuPont™ ESCORT® XP on a particular for the first time, limit to a small area. In no injury occurs throughout the season, larger acreage may be treated the following season.

Broadleaf forage species, such alfalfa and clover, are highly to ESCORT® XP and will be severely stunted or injured by ESCORT® XP.

CROP ROTATION

Before using ESCORT® XP,carefulty consider your crop rotation and options:

Minimum Rotational Intervals

Minimum rotation intervals* are determined by the rate of breakdown of ESCORT® XP applied. ESCORT® XP breakdown in the soil is affected by soil pH, presence of soil microorganisms, soil temperature, and soil moisture. Low soil pH, high soil temperature, and high soil moisture increase ESCORT® XP breakdown in soil, while high soil pH, low soil temperature, and low soil moisture slow ESCORT® XP breakdown.

Of these 3 factors, only pH remains relatively constant. Soil temperature, and to a greater extent, soil moisture, can vary Significantly from year to year and from area to area. For tbis reason. temperatures and moisture should be monitored regularly when considering crop rotations.

* The minimum rotation intervul represents the period of time from the lasl upplication to the anticipated date of the next

Soil pH Limitations

ESCORT® XP should not be used on soils having a pH 7.9, as extended soil activity could extend crop rotation intervals beyond nennai. Under certain conditions, ESCORT® XP could remain in the soil for 34 months or more, injuring wheat and barley. In addition, other crops planted in highwpH soils can he extremely sensitive to low concentrations of ESCORT® XP.

Checking Soli pH

Before ESCORT® XP, determine the soil pH of the areas of intended use. To obtain a represclUative pH value for the test area, take several 0" to 4" samples from different areas of the and analyze them separately. Consult local extension publications for additional information on recommended soil sampling procedures.

BIOASSAY

A field bioassay musl be completed before rotating to any crop or grass species/variety not listed in the Rotation Intervals Table, Or if the soil pH is not in the specified range, or if the USe rate applied is not specified in the table. To a field bioassay, grow test strips of the crop(s) or you plan to grow the following year in fields previously treated ESCORT® XP. Crop or grass response to the bioassay will indicate whether or not to to the crop(s) or grass(es) grown in the strips.

If a field bioassay is planned, check with your local Agricultural dealer or DuPont representative for information detailing the field bioassay procedure.

Rotation Intervals Ior Overseedlng and Renovation

Location	Crop or Species	Maximum ESCORT®XP Rate (oz per A)	Minimum Rotation Interval (months)
AL. AR. FL. GA, KY. LA, MS. OK. SC. TX. VA. WV	Alfalfa, red white clover, sweet clover, bermudagrass, bluegrass, ryegrass, tall fescue	1110 to 3110	4
	Wheat durum)	1110 to 3110	I
	Durum, barley. oat	1/10 to 3/10	10
ALL STATES NOT INCLUDED ABOVE	white and sweet clover	1110 to 2110	12
	Bermudagrass, bluegrass, ryegrass	1110 to 2/10	6
	Tall Fescue	1110 to 2/10	18
	Wheal durum)	lito 10 2/10	I
	Durum, barley.	1/10 to 2110	10
ALL AREAS WITH SOIL PH OF 7.5 OR LESS	Russian wildryc	1110 to 1/2	I
	Green needlegrass. switchgrass, sheep fescue	1110 10 I	I
	Meadow brame. brome. alta fescue. fescue, meadow foxtail, ol'chardgmss. wildrye, timothy	1/10 to I	2
ALL AREAS WITH SOIL PH OF 7.9 OR LESS	Alkali mountain blue grama wheatgrass	1/10 to I	I
	grama,	1/10 to 1/2	2
	Western wheatgrass	1110 to I	2
	Sidcoats grama, switchgrass. blueslem	lito 10 1	3

When lIsed as directed, there is no grazing or haying restriction usc ratcs of 1 2/3 ounce per acre or less. At use rates greater than 1 2/3. ounce per acre and up to *3 1/3* ounce per acre, forage grasses may be cut for hay, fodder or green forage and fed to livestock, including lactating animals. 3 days after treatment.

IMPORTANT PRECAUTIONS

- Grass species or varieties may differ in their to various herbicides. If no information is available, limit the initial of DuPont™ ESCORT® XP to a small area.
- Components in a grass seed mixture will vary in tolerance to ESCORT® XP so the final stand may not reflect the seed ratio.
- Under certain such as heavy rainfall. high pH. prolonged cold weather, or wide fluctuations in day/night temperatures prior to or soon after ESCORT® XP application. temporary discoloration amVor grass injury may occur. ESCORT® XP should not be applied Lo grass that is stressed by severe weather drought. low fertility, wate-r-saturatcd soils, disease, or insect damage as grass injury may result. Severe winter stress, drought. disease. or insect damage before or following application also may result in grass injury.
- Applications of ESCORT® XP to lands undersown with legumes may cause injury to the legumes. Legumes in a seeding mixture may be severely injured or killed following an application of ESCORT® XP.
- The control of weeds in wheel track areas may be reduced if ground applications are made when dry, dusty field conditions exist. The addition of 2,4-D or MCPA should improve weed control under these conditions.

WEEDS CONTROLLED

1/3 to 1/2 ounce per acre

Annual sowlhistle	Goldenrod
Aster	Lamhsquarters
Bahiagrass	Marestai ****
Beebalm	Maximillion sunllower
Biuercress	Miners lettuce
Bitler sneezcwccd	Pennsylvania smartwced
Blackeyed-susan	
Blue mustard	PI,lOtain
Bur buttercup	Redroot pigweed
Chicory	Redstem filarcc
Clover	Rough Ileabane
Cocklebur	Shepherd's purse
Common chickweed	Silky crazyweed (locoweed)
Common groundsel	Smallseed falsctlax
Common purslane	Smooth pigweed
COlllmon yarrow	S\weet clover
	Tansymustard
Corn cockle	Treacle mustard
Cow cockle	Tumble
Crown	Wild carrot
Dandelion	Wild garlic
Dogfennel	Wild Icttuce
False chamomile	Wild mustard
t'iddlcneck tarweed	Wooly croton
pennycress	Wood sorrel
Flixweed	Yanke-weed

1/2 to 1 ounce per acre

Blackberry	Honeysuckle
Black henbane	Multiflora rose and other wild roses
Broom snakeweed*	Musk thistle***
Buckhorn plantain	Oxeye daisy
Bull thistle	Plumeless thistle
Common crupina	Prostrate knotweed
Common suntlower	Roscring gaillardia
Curly dock	Seaside arrowgrass
Dewberr)'	Seneea Icspedeza
Dyer's woad	Tansy ragwort
Garlie mustard	Teasel
Gorse	Wild caraway
Halogeton	
Henbit	

1 to 2 ounces per acre

Common mullein	Purple loosestrife
Common	Purple scabious
Field bindweed**	Scotch thistle
Grease-wood	Scouringrush
GUllwccd	Salsify
Houndstollgue	Sllowherry
Lupine	St. Johnswort
Old world dimbing fern (Lygodium)	Sulphur cinquefoil
	Western salsify
Perennial pcpperwecd	Whitetop (hoary cress)
Poison hemlock	Wild

I 1/2 to 2 ounces per acre

Canada	Tall larkspur
Dalmation toadflax**	Wild parsnip
Duncecap larkspur	Yellow

3 to 4 ounces per acre

Kudzu

* Apply fall through

** Suppression. is reduction in weed competition (reduced population or vigor) as compared to untreated areas. Apply full coverage spray for best pelformance.

*** Certain biotypcs of musk thistle are more sensitive to ESCORT® XP and may be controlled rates of 1/4 to 1/2 ounce per acre. of ESCORT® XP may be applied from rosette through bloom stages of development.

**** Certain biotypes of marestailJhorsetail are less sensitive to ESCORT® XP and may be by tank mixes with herbicides with a different mode of action.

Problem Control

For broader spectrum control and for use 011 certain biotypes of broadleaf weeds which may be resistant to ESCORT® XP and herbicides with the same mode of action. the following tank mixes are recommended.

Dicamba + 2,4-0

Weed	Rate of ESCORT® XP	Rate of dicamba (fluid ounces/acre)	Rate of *2,4·D* (fluid ounces/acre)
Kochia control	1/2	8	16
Spotted knapweed control	1/2	8	16
Rush skeletonweed suppression	I	8	16

TURF, INDUSTRIAL (UNIMPROVED ONLY)

Application Information

ESCORT® XP is recommended for selective weed control in unimproved industrial turf where certain grasses are well established and desired as ground cover. ESCORT® XP is also reconmlended for the conu'ul uf certain noxiuus and troublesome weeds in turf.

In addition to conventional spray equipment, ESCORT® XP may also be applied with invert emulsion equipment. When using an invert emulsion, mix the prescribed rate of ESCORT® XP in the warer phase.

Consult the "Weeds Controlled" table to determine which weeds will be controlled by the following recommendations:

TurfTvpe	Rate of DuPont™ ESCORT® XP (ounces/acre)
Bluegrass	1/4 10 1/2
Crested Smooth Brome	1/4 to 1
Bermudagrass	1/4102

Application Timing

Applkalions be made anytime of lhe year. when the soil frozen.

When a spring application is made on fescue or bluegrass, application may be made during the summer after full scedhcad maturation.

Growth Snppression and Seedhead Inhibition \Chemical Mowing)

Application Information

ESCORT® XP is recommended for growth and sccdhead inhibition in well established fescue and bluegrass turf at the rate of 1/4 to 1/2 ounce per acre.

Tank Mix Combination

ESCORT® XP may be mixed with "Embark" for improved performance in the regulation of growth and seed suppression. Tank mix 1/4 to 112 ounce of ESCORT® XP wilh 1/8 10 1/4 pinl of "Embark".

Application Timing

Application may he made after at least 2 to 3 inches of new growth has emerged until the appearance of the seed stalk.

Fescue Precautions:

ESCORT® XP may temporarily tall fescue, it to turn yellow. or cause seedhead suppression. To minimize these symptoms, take the following precautions:

- Do nol use more than 4/10 ounce per acre of ESCORT®XP.
- Tank mix ESCORT® XP with 2.4-0.
- Use the lowest recommended rate for target
- Use a non-ionic surfactant at to I pint per 100 gallons or spray solution.
- Make application latcr in spring after the new growth is 5 to 6 inches tall. or in the fall.
- Do 110t use a surfactant when liquid nitrogen is used as a carrier.
- Do not use a spray adjuvant olher than surfactant.
- The from the first cutting may be reduced due to seedhead suppression reSUlting frorn treatment with ESCORT®XP.

IMPORTANT PRECAUTIONS -INDUSTRIAL TURF ONLY

- An application of ESCORT® XP may discoloration (chlorosis) of the grasses. Use the lower recommended rates for minimum discoloration.
- With fescue and bluegrass, sequential applications made during the same or consecutive growth periods (i.e. spring and fall) may result in excessive in.iury to turf.
- Excessive injury may result when ESCORT® XP is applied to turf that is under from drought. insects, cold temperatures (winter injury) or poor fertility.
- ESCORT® XP not recommended for use on bahiagrass.

BRUSH CONTROL

Application Information

ESCORT® XP recommended for the control of undesirable brush growing in non-crop areas including grazed on these Applications may he made by air. high volume grolltd application, low volume ground application and ultra-low volume ground application. Except noted for multiflora ESCORT® XP should be applied as a spray to the foliage.

The application volume required will vary with the height and density of the and the application equipment used. Generally, aerial applications will require 15 to 2S gallons of water per acre; high volume ground application will require 100 lo 400 gallons of water per acre; low volume ground application will require 20 to 50 gallons of water per acre: and volume ground application will require 10 to 20 gallons of waler per acre.

Regardless of the application volume and equipmenl used. thorough coverage of the foliage. pm1icularly the terminal growing points. is necessary to optimize results.

IIRUSH SPECIES CONTROLLED

Species	High Volume Rate (ounces/IOO gallon)	Uroadcast Rate (ounces/acre)
Ash	1--2	1—3
Aspen	1--2	1—3
Black locust	1 2	1-3
Blackberry	1--2	1--3
Camelthorn	1-2	1--3
Cherry	1-2	1--3
Cottonwood	1-2	2--3
cedar	1--2	2--3
Elder	1--2	2—3
Elm	1--2	1--3
Firs	3	1--2
H"wthorn	1—2	1-3
Honeysuckle	1--2	1/2--1
Mulberry	1—2	2—3
Multiflora	1-2	1—3
Muscadine (wild grape)	1—2	2—3
Oaks	1-2	1--3
Ocean spray (*Holodiscus*)	1--2	2—3
Osage orange	1—2	2--3
Red maple	1-2	2-3
Salmonberry	1/2—1	1—3
Snowbcrry	*1/2-1*	1—3
Spruce (black ami white)	3	2-3
Thimblebcrry	112-1	1-3
Trce of heaven (*Ailanthus*)	1—2	1-2
Wild roses	*1/2-1*	*1-3*
Willow	*1/2-1*	1-3
Yellow poplar	*1/2-1*	*1--3*

For low volume and ultra-low volume ground mix 8 ounces of ESCORT® XP per 100 gallons of spray solution.

DuPont™ the period from full leaf expansion in the spring until the development of full fall coloration on deciduous species to be controlled. Coniferous species may be treated at anytime during the growing season.

Sput Treatment

ESCORT® XP is recommended for the control of many species of weeds including noxious/invasive weeds in ccnain established grasses growing on non-crop areas. Refer to the "Weeds Controlled" section for listing of susceptible weed species and the application ratc per acre per the target weed.

Or, mix one gram of ESCORT® XP per one gallon of water along with a at. Spray to the point of wetLing the entire surface of the larget weeds, approximately 40 gallons of solution per acre.

Tank Mix Combinations-

ESCORT® XP may be tank mixed with any product labeled for non-crop brusb control at the application rates specified on the companion product's label for the pests on the product's companion label. Read and follow the label instructions of both products when tank mixing. Follow most restrictive limitations of allY of the product being tank mixed.

Low Rate Applications

Imazapyr (2 pound active per gallon)

Combine I to 2 ounces of ESCORT® XP with J to 4 pints of imazapyr per and apply as a broadcast spray. applications should use a minimum of 15 gallons per acre spray volume. In addition to species listed controlled by ESCORT® XP, combination controls black gum, hophornbeam, sassafras. sweclgum. Vaccinium dogwood, dahoon, hickories, and persimmon.

Picloram (2 pound active per gallon) + lmazapyr (2 pound active per gallon)

Combine I to I 112 ounce of ESCORT® XP with 2 to 8 fluid ounces of imazapyr and 1 to 2 pints of picloram per 100 gallons of Apply as a high volume spray. This tank mix cherry, elms, box elder, maples, hackberry, redbud, ash, oaks (including shingle oak), black locust and sassafras.

*Picloram is a restricted use pesticide.

Spotgun Basal Soil Treatment

For contl'ol of multiflora rose, prepare a suspension of ESCORT® XP by mixing I ounce per gallon of water. Mix vigorously until the ESCORT® XP is dispersed and agitate periodically while applying the spray suspension.

Apply the spray preparation with an exact delivery handgull applicator. Apply at the rate of 4 milliliters for each 2 feet of canopy diameter. Direct treatment to the within 2 feet of the stem union. When treating large plants and more than one delivery is required. make applications on opposite sides of the plant.

Applications should be made from early spring to summer.

IMPORTANT PRECAUTIONS -NON-CROP BRUSH ONLY

When using tank mixtures of ESCORT® XP with companion herbicides, read and follow all instructions, application rates, warnings and precaUlions appearing on the labels. Follow the most restrictive label instructions for each of the herbicides used.

SPRAY EQUIPMENT

Low rates of ESCORT® XP can kill or severely injure most crops. Following an ESCORT® XP application, the use of spray equipment to apply other pesticides to crops on which ESCORT® XP is not registered may result in their damage. The most effective way to reduce this crop damage potential is to dedicated mixing and application equipment.

The selected sprayer should be equipped with an agitation system to keep ESCORT® XP suspended in the spray tank. Use a sufficient volume of water 10 thoroughly the foliage of undesirable weeds, generally 10 to 40 gallons per acre. Select a spray volume delivery system that will deliver a uniform spray Be the sprayer is c'llibrated lise. Avoid overlapping and shut off spray booms while starting, lurning, slowing or stopping to avoid injury desired

Refer to the brush control section of this label for information unique to that particular use.

MIXING INSTRUCTIONS

1. Fill the tank 1/4 to 1/3 full of water.
2. While agitating. add the required of ESCORT® XP.
3. Continue agitation until the XP is fully dispersed, al least 5 minutes.
4. Once the ESCORT® XP is fully maintain agitation and continue tilling lank with ESCORT® XP should be lhoroughly mixed with water before adding any other material.
5. As lhe is filling, add tank mix partners (if desired) then add the volume of Ilonionic surfactant. Always surfactunt lust.
6. If the mixture is not cOIHinuously agitated, settling will occur. If settling occurs, thoroughly before using.
7. ESCORT® XP preparations are stable jf they are pH neutral or alkaline and stored at or below J00° F.
8. If ESCORT® XP and a tank mix partner are to be applied in multiple loads. pre-slurry the ESCORT® XP in clean prior to adding to the tank. This will prevent the tank mix panner from interfering with dissolution of the ESCORT® XP.

USE PRECAUTIONS

Do not drain or flush equipment on or near trees or other plunts, or on areas where their roots may extend, or in locations where the product may be washed or moved inlo contact their roots. as injury or loss of desirable trees or other plants may result

off

are moved by wind or water. Injury to CL'OPS may result if treated soil is washed, blown, or moved onto land used to produce crops. Exposure to DuPont™ ESCORT® XP may injure or kill most crops. Injury may be more severe when the crops arc irrigated. Do not apply ESCORT® XP when these conditions identified and powdery. dry soil or light or sandy soils are known to be prevalent in area being treated.

Applications made where runoff water flows onto agricultural land may injure crops. Applications made during periods of intense rainfall, to saturated with water, to paved with materials such as asphalt or concrete, or 10 soils through rainfall will not readily penetrate may result in runoff and movement of ESCORT® XP. Do not treat frozen soil. Treated soil should be left undisturbed to reduce the potential for ESCORT® XP movement by soil erosion due to wind or waler.

- Do not use on lawns, walks, driveways, tennis courts or similar areas.
- Do not apply through any type of irrigation system.

When used as directed, there are no grazing or haying restrictions for use rates of 1 2/3 ounce per acre and less. At usc rales of I 2/3 to 3 1/3 ounce per acre, forage grasses may he cut for hay, fodder or green forage and fed to livestock. including: lactating animals. 3 days after treatment.

Do 110t use product in the following counties of Colorado: Saguache, Rio Grande, Alamosa, Costilla and Conejos.

Do not use this product in California.

SPRAYER CLEANUP

Spray equipment must be cleaned before ESCORT® XP is sprayed. Follow the cleanup procedures specified on the labels of previously applied]f no are provided, follow the six steps outlined below.

At the End of the Day

When multiple loads of ESCORT® XP herbicide are applied. it is recommended that at the end of each day of spraying, interior of the tank be rinsed with fresh water and then partially filled, and the boom and hoses flushed. This will prevent the buildup of dried pesticide deposits that can in the application equipment.

1. Drain thoroughly rinse spray tanks, boom, and hoses with clean water. Loosen and physically remove any visible deposits.
2. Fill the tank with clean water and 1 gal of household 3% active) for every 100 gal of waleI'. Flush the hoses. boom, and nozzles with the cleaning solution. Then add more water to completely fill the tank. Circulate the cleaning solution through the tank and hoses for at 15 min. Flush the and nozzles again with cleaning solution, and {hen drain the tank.
3. Remove the nozzles and and clean separately in a bucket containing cleaning agent and water.
4. Repeat step 2.
5. Rinse the tank, boom, and hoses with clean water.
6. If only ammonia is used as a cleaner, the rinsate solution may be applied to the erop(s) recommended on this label. Do not exceed the maximum labeled use rate. If other cleaners are used. consult the cleaner for rinsate disposal instructions. If no instructions arc given, dispose of the rinsate on site or at an approved waste disposal facility.

* Equivalent amounts of an altemate-slrength ammonia Solulion or a DuPonl-approvt:d cleaner can in the cleanout procedure. Carefully read and follow {he individual cleaner instructions. Consull your agricultural dealer, applicator, or DuPont representlltive for a listing of approved cleaners.

Notes:

I. Attention: Do not use chlorine bleach with ammonia, dangerous gases will fonn. Do not clean equipment in an enclosed area.
2. Stcam·deaning aerial spray tanks is recommended prior to perfonning above c1eanout procedure to facilitate the removal of any caked deposits.
3. When ESCORT® XP is tank mixed with other pesticides. all required c1eanout procedures should be examined and the most rigorous procedure should be followed.
4, In addition to this c1eanout procedure, all prec1eanout guidelines on SUbsequently applied products should be followed as per the individual labels.

SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather-related factors determines the potential for drift. The applicator is responsible for considering all these when making application decisions.

AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.

IMPORTANCE OF DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets (>150 - 200 microns). The best drift management strategy is to apply the droplets that provide coverage and conlrol. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. APPLYING LARGER DROPLETS REDUCES DR1FT POTENTIAL, BUT WILL NOT PREVENT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE ENVIRONMENTAL CONDITIONS. See Wind, Temperature Humidity. and Temperature Im:crsions sections of this label.

Controlling Droplet Size · General Techniques

Volume - Use high flow nozzles to apply the highest spray volume. Nozzles with higher rated flows produce larger droplets.

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s

- Usc the minimum number of nozzles with the highest flow that provide unifonn coverage.

Nozzle Orientation· Orienting nozzles so that the spray is emitted backwards. parallel to the airstream will produce larger droplets than other orientations.

NOlzle Type - Solid stream (such as disc and core with swirl plate removed) oriented straight produce larger droplets than other nozzle types.

Boom Length - The boom length should not exceed 3/4 of the wing or rotor length - longer booms increase drift potential.

Application Height - Application more than] 0 ft the canopy increases the potential for spray drift.

BOOM HEIGHT

Seuing the boom at the lowest labeled height (if specified) which provides uniform coverage reduces the exposure of droplets to evaporation and wind. For ground equipment. the boom should.remain with the crop amI have minimal bounce.

WINO

Drift potential increases at wind speeds of less than J mph (due to inversion pOlential) or more than 10 mph. However, many factors. including droplet size and type determine drift potentia] at given wind speed. AVOID GUSTY OR WINDLESS CONDITIONS. Note: Local terrain can influence wind patterns, Every should he familiar with local wind patterns and how they affect spray drift.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions. set up equipment to produce larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a tcmperature invcrsion. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature with 'Iltitude and are common on nights with cloud cover and light to no wind. They begin to form as the sun sets and often continue info the morning. Their can be indicated by ground fog; hO\vever, if fog is not present. inversions can also be identified by the movement of smoke from a ground source or 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.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce the effects of wind. However, it the responsibility of the applicator to verify the shields are preventing drift and nol interfering Wilh uniform deposition of the product.

STORAGE AND DISPOSAL

Pesticide Storage: Store product in original only. Do not contaminate water, other pesticides. fertilizer. food or feed in storage. Store in a cool, dry place.

Pesticide Disposal: Do not contaminate water, food, or feed by disposal. Waste resulting from the use of this product may be disposed of on site or at an approved waSle disposal facility.

Container Disposal: For Plastic Containers: Triple rinse (or equivalent). Then offer for recycling or recondilioning, or puncture dispose of in a sanitary landfill, or incineration. or, if allowed by Slate and local authorities. by burning. If burned. Slay out of smoke. For Fiber Sacks: Completely empty fiber sack by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into manufacturing or application equipment. Then dispose of sack in a sanitary landtill or by incineration if allowed by State and local authorities. For Fiber Drums With Liners: Comple[ely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue imo application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by State and local authorities. If drum is and cannot be reused, dispose of in the manner. For Bags COlltaining Water Soluble Packets: Do nol reuse the ollter box or the resealable plastic bag. When all packets are lIsed. the outer packaging should be clean and may be disposed of in a sanitary landfill or by or if allowed by State and local authorities, by open buming. If burned, stay out of smoke. If lhe rescalable plastic bag contacts the formuhltcd product in any way, the bag must be triple rinsed with clean water. Add the rinsate to the spray tank and of the outcr wrap as described above. For Metal Containers (noll aerosol): Triple rinse (or equivalent) container. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures by State and local authorities. For Paper and Plastic Completely empty bag into application equipment. Then dispose of cmpty bag in a sanitary landfill or by incineration. or, if allowed by State and local authorities. by hurning. If hurned, stay out of smoke.

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"Embark" is a registered lrademark of PBI Gordon Corporalion.

SL - 1252A 111507 11-08-07

LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read This Limitation of Warranty and Liability Buying or Using This Product. If the Terms Are Not Acceptable, Return the at Once, Unopened. and the Purchase Price Will Be Refunded.

It is impossible to eliminate all associated with the use of this Such risks arise from weather conditions, soil factors. off target movement, unconvemional farming techniques, presence of other materials, the manner of use or application, or other unknown factors. all of are beyond the control of DuPont. These can cause: ineffectiveness of the product; crop injury, or; injury to non-target crops or plants.

DuPont not agree to be an insurer of these TO THE FULLEST EXTENT PERMITTED BY LAW, WHEN YOU BUY OR USE THIS PRODUCT, YOU AGREE TO ACCEPT THESE RISKS.

DuPont warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for the purpose stated in the Directions for Usc, subject to the inherent risks described above. when used in accordance with the Directions for Use under nOimal conditions.

DUPONT MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

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This Limitation of and Liability may not be amended by any oral or written agreement.

For product information call: 1-888·6·DUPONT
Internet address: http://cropprotection.dupont.com/

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DUPONT™ ESCORT® XP HERBICIDE

EPA REG. NO. 352-439

FOR USE ON PASTURE AND RANGELAND

DIRECTIONS FOR USE

DUPONT'M ESCORT® XP is recommended for the control of broadleaf weeds, brush and several woody vine species in forage grasses growing in pasture and rangeland.

ESCORT® XP may he tank mixed with other pesticides labeled for use in pasture and rangeland. Read and follow the labels on all producls used in the tank mix. Observe the most restrictive precautions on each of the product's labels.

Application of ESCORT® XP to pasture and rangeland may be made by ground or air. Use a sufficient volume of water to ensure thorough coverage of the targeted weeds with the equipment being used. In Idaho, Oregon and Washington use a minimum applicationyolume of 3 gallons of spray solution per acre.

APPLICATION INFORMATION FOR GRASS ESTABLISHMENT IN PASTURE AND RANGELAND

ESCORT® XP is recommended for the control or suppression of broadleaf weeds to aid in the establishment of the following perennial native or improved grasses planted in pasture and rangeland:

Blue Grama	Lovegrasscs --	crested
Bluestems --	Atherstone	intermediate
Big	Sand	pubescent
Little	Weeping	Siberian
Plains	Wilman	slender
Sand	Orchardgrass	steambank
W W spar	Sideoats grama	tall
Buffalograss	Switchgrass -	thickspike
Green spranglelop	Blackwell	western
Kleingrass	Wheatgrasses -	Wildrye grass-
	bluebunch	Russian

Maximize potential for grass establishment by consulting with the Natural Resource and Conservation Service of other government agencies or local experts concerning planting techniques and other cultural practices.

Performance from ESCORT® XP may not always be satisfactory due to the inability of newly planted grass stands to sufficiently compete with weeds, and the severity of weed pressure in new grass stands.

An additional herbicide application or mowing may be needed.

Use Rates and Application Timing for Grass Establishment in pasture and rangeland Preplant (prior to planting) or Preemergence (after planting but before emergence)

Do not use more than 1/10 ounce/acre of ESCORT® XP for grass establishment in pasture and rangeland.

Apply ESCORT® XP at 1110 ouncelacrc on alliabelcd grasses except orchardgrass and Russian wildrye grass. Do not apply ESCORT® XP preplant or preemergencc to orchardgrass and Russian wildrye grass as severe crop injury may result.

Early postemergence to new plantings

Apply ESCORT® XP at lila ounce/acre, plus a non-ionic surfactant at the rate of 2 to 4 pintsll00 gallons of spray solution on all labeled grasses anytime after grass emergence.

Do not use a spray adjuvant other than surfactant. Because grass species differ in time of emcrgence, apply only after the majority of grasses arc in the 3 to 4 leaf stage.

Postemergence to stands with 1- 5 leaf grasses planted the previous season.

Apply ESCORT® XP at 1/10 ounce/acre plus a non-ionic surfactant at the rate of 2 to 4 pints/lOa gallons of spray solution,on all labeled grasses when the majority of the grasses have one or more leaves.

Do not use a spray adjuvant other than non-ionic surfactant.

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1 ounce per 100 gallons of waler. Do not apply more than I 2/3 ounces of ESCORT® XP per acre per year.

Refer to the Weeds Controlled section of the section 3 label for alisting of the weeds controlled by ESCORT® XP and the appropriate use to obtain control.

Application Timing - Established Grasses in Pasture and Rangeland

ESCORT® XP may be applied to established native grasses such as bluestems and grama, and on other established grasses such as bermudagrass. bluegrass, orchardgrass, bromegrass, fescue and timothy that were planted the previous growing season (or earlier) and are fully tilIered, unless otherwise directed on this label. Specific application timing information on several of these grass species follows:

Grass	Minimum time from Grass establishment ESCORT® XP application
Bermudagrass	2 months
Bluegrass, bromegrass, Orchardgrass	6 months
Timothy	12 months
Fescue	24 months

Fescue Precautions:

Note that ESCORT® XP may temporarily stunt tall fescue, cause it to turn yellow, or cause seedhead suppression. To minimize these symptoms, take the following precautions:

- Do not USe more than 4/10 ounce/acre of ESCORT® XP
- Tank mix ESCORT® XP with 2,4-D
- Use the lowest recommended rate for target weeds
- Use a non-ionic surfactant at 1/2 to I pint per 100 gallons of spray solution
- Make application later in the spring after the new growth is 5 to 6 inches tall, or in the fall
- Do not surfactant when liquid nitrogen is used as a carrier
- Do not use a spray adjuvant other than non-ionic surfactant

The first cutting yields may be reduced due to seedhead suppression resulting from treatment with DuPol1t™ ESCORT® XP,

Timothy Precautions:

Timothy should be at least 6 inches tall at application and be actively growing. Applications of ESCORT® XP to timothy under any other conditions may cause crop yellowing and/or stunting. To minimize these symptoms, take the following precautions:

- Do not use more than 4/10 ounce/acre ESCORT® XP
- Tank mix ESCORT® XP with 2, 4-D
- Use the lowest recommended rate for target weeds
- Use a non-ionic surfactant at 1/2 pint per 100 gallons of spray solution (1/16%)
- Make applications in the late summer or fall
- Do not use surfactant when liquid nitrogen is used as a carrier
- Do not use spray adjuvant other than surfactant

Application of ESCORT® XP to Pensacola bahiagrass, ryegrass (Italian or perennial) and Garrison's creeping foxtail may cause severe injury to and/or loss of forage.

Other Pasture and Rangeland Grasses

Varieties and species of forage grasses differ in their tolerance to herbicides. When using ESCORT® XP on a particular grass for the first time, limit use to a small area. In no injury occurs throughout the season, larger acreage may be treated the following season.

Broadleaf forage species, such as alfalfa and clover, are highly sensitive to ESCORT® XP and will be severely stunted or injured by ESCORT® XP.

SPOT TREATMENTS

DuPont™ ESCORT® XP Herbicide is recommended for use as spot treatment to control noxious and troublesome weeds on pasture, rangeland, non-crop areas, such as, roadsides and industrial sites including government and private lands.

Application Information

ESCORT® XP is recommended to control many species of weeds, including noxious weeds, in certain established grasses growing on non-crop areas and forage grasses growing on pasture and rangeland. Refer to the "Weeds Controlled" section of the package label or supplemental labeling for a listing of susceptible weed specks. If the sprayer is calibrated, consult the package label or other supplementallabcling to select the application rate per acre of ESCORT® XP appropriate for the target weeds. Or mix one gram of ESCORT® XP per one gallon of water along with a suitable surfactant. Spray to the point of wetting the entire surface of the target weeds, approximately 40 gallons of solution per acre. When applied ill this manner there is no grazing restrictions following the use of ESCORT® XP. Applications may be made at anytime of the year, except when the soil is frozen.

CROP ROTATION

Before using ESCORT® XP, carefully consider your crop rotation plans and options. For flexibility, do not treat all of your pasture, rangeland or CRP acres at the same time.

Minimum Rotational Intervals

Minimum rotation intervals* arc determined by the rate of breakdown of ESCORT® XP applied. ESCORT® XP breakdown in the soil is affected by soil pH, presence of soil microorganisms, soil temperature, and soil moisture. Low soil pH, high soil temperature, and high soil moisture increase ESCORT® XP breakdown in soil, while high soil pH, low soil temperature, and low soil moisture slow ESCORT® XP breakdown.

Of these 3 factors, only soil pH remains relatively constant. Soil temperature. and to a greater extent, soil moisture, can vary significantly from year to year and from area to area. For this reason, soil temperatures and soil moisture should be monitored regularly when considering crop rotations.

*The minimum rotation interval represenIs the period of time from the application to the anticipated date of the next planting.

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	Maximum ESCORT®XP Rate on Paslure (oz per A)	Minimum Rotation Interval (months)
blucgrass, tall fescue	1/10 103/10	4
Wheat (except durum)	1/10 to 3/10	I
Durum, barley,	1/10 to 3/10	10
Red clover, white clover and swcct clover	1/10 to 2/10	12
Bermudagrass, bluegrass, ryegrass	1/10 10 2/10	6
Tall Fescue	1/10 10 2/10	18
Wheat (except durum)	1/10102/10	I
Durum, barley, oat	1110102/10	10
Russian wildrye	1/10 to 1/2	l
Green needlegras:;. switchgrass, sheep fescue	1/10 to I	I
Meadow brome, smooth brome, alta fescue, red fescue. meadow foxtail, orchardgrass, Russian wildryc, timothy	IIIO to 1	2
Alkali sacoton, mountain brome. blue grama thickspike wheatgrass	1110101	I
Sideoats grama, switchgrass	1/10 to 1/2	2
Western wheatgrass	1/10 to l	2
Sideoals grama, switchgruss, big blueslem	IIIO to 1	3

Soil

ESCORT® XP should not be used on soils having a pH above 7.9. as extended soil residual activity could extend crop rotation intervals beyond normal. Under certain conditions, ESCORT® XP could remain in the soil for 34 months or more, injuring wheat and barley. In addition, other crops planted in high-pH soils can be extremely sensitive to low concentrations of ESCORT®XP.

Checking Soil pH

Before using ESCORT® XP, determine the soil pH of the areas of intended use. To obtain a representative pH value for the test area, take several 0" to 4" samples from different areas of the field and analyze them separately. extension publications for additional information on recommended soil sampling procedures.

BIOASSAY

A field bioassay must be completed before rotating to any crop or grass specieslvariety not listed in the Rotation Intervals Table, or if the soil pH is not in the specified range, or if the use rate applied is not specified in the table.

To conduct a field bioassay, grow test strips of the crop(s) or grass(es) you plan to grow the following year in fields previously treated with ESCORT® XP. Crop or grass response to the bioassay will indicate whether or not to rotate to the crop(s) or grass(es) grown in thc tcst strips.

If a field bioassay is planned, check with your local Agricultural dealer or DuPont representative for information detailing the field bioassay procedure.

GRAZINGIIIAYING

When used as directed, there is no grazing or haying restriction for use rates of 1 2/3 ounces per acrc and less.

Coveralls, shoes plus socks must be worn if cutting within 4 hours of treatment.

IMPORTANT PRECAUTIONS

• Do not apply more than 1 2/3 ounces of ESCORT® XP per acre per year on pasture or rangeland.

• species or varietics may differ in their response to various herbicides. DuPont recommends that you first consult your state experiment station, university, or extension agent as to sensitivity to any herbicide.]f no information is available, limit the initial use of ESCORT® XP to a small area. Components in a grass seed mixture will vary in tolerance to ESCORT® XP so the final stand may nol reflect the seed ratio.

• Under certain conditions such as heavy rainfall. high pH, prolonged cold weather, or wide fluctuations in day/night temperatures prior to or soon after ESCORT® XP application, tcmporary discoloration and/or grass injury may occur. DuPont™ ESCORT® XP should not be applied to grass that is stressed by severe weather conditions, drought. low fertility, water-saturated soils, disease, or insect damage as grass injury may result. Severe winter stress, drought, disease, or insect damage before or following application also may result in grass injury.

• Applications of ESCORT® XP to pasture and rangeland undersown with legumes may cause injury to the legumes. Legumes in a seeding mixture may be severely injured or killed following an application of ESCORT® XP.

• Applications made to some established grasses may cause temporary stunting, yellowing or seedhead suppression (i.e. fescue, timothy).
• Applications made to newly established grasses less than 2 years from seeding may result in injury or loss.
• Do nol apply to forage grasses known to be sensitive to ESCORT® XP such as ryegrass (Italian and perennial), bahia or Garrison's creeping foxtail.
• Broadleaf forage species, such as alfalfa and clover. are highly sensitive to ESCORT® XP and will be severely injured or killed.
• The control of weeds in wheel track areas may be reduced if ground applications are made when dry, dusty field conditions exist. The addition of 2,4-D or MCPA should improve weed control under these conditions.
• Do not use this product in the following counties of Colorado: Saguache, Rio Grande, Alamosa, Costilla and Conejos.
• Do not use this product in California.

IMPORTANT NOTICE
BEFORE BUYING OR USING DUPONT PRODUCT(S) COVERED BY THIS LABEL, READ THIS LABEL AND THE LABELS FOR ALL PRODUCTS REFERENCED IN THIS LABEL, IN THEIR ENTIRETY. ALL APPLICABLE DIRECTIONS, RESTRICTIONS AND PRECAUTIONS.

This label contains supplemental instructions for use of the referenced DuPont product. Follow these instructions carefully. This label must be in the possession of the user at the time of application.

Read the Limitation of Warranty and Liability on the Section 3 Federal product label before buying or using THIS product. If terms arc not acceptable, return the unopened package at once to Seller for full refund of purchase price paid. Otherwise, use by Buyer or any other User constitutes acceptance of the terms of the Limitation of Warranty and Liability on the Section 3 Federal product label.

R-718 072407 11-08-07
(Ref: SL-1252 MSTR 082807 11-08-07)

The MSDS format adheres to the standards and regulatory requirements of the United States and may not meet regulatory requirements in other countries.

DuPont **Page** 1
Material Safety Data Sheet

"DuPont" IIESCORTQ XP HERBICIDE
M0000459 **Revised I-JUN-200S**

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

ftESCORT" is a registered trademark of DuPont.

"DuPont" **is a trademark of DuPont.**

Grade : 60% FORMULATION

Tradenames and Synonyms

METSULFURON METHYL
I'ESCORT" 6 ODF

Company Identification

MANUFACTURER/DISTRIBUTOR
DuPont
1007 Market Street
Wilmington, DE 19898

PHONE NUMBERS

Product Information	1-800-441-7515 (outside the U.S. 302-774-1000)
Transport Emergency	CHEMTREC 1-800-424-9300(outside·U.S. 703-527-3887)
Medical Emergency	1-800-441-3637 (outside the U.S. 302-774-1000)

COMPOSITION/INFORMATION ON INGREDIENTS

Components

Material	**CAS Number**	**%**
METSULFURON METHYL (METHYL 2-[[[(4-METHOXY-6-METHYL-1,3,5-TRIAZIN-2-YL)AMINOj CARBONYL] AMINO] SULFONYLj BENZOATE)	74223-64-6	60
INERT INGREDIENTS		40

HAZARDS IDENTIFICATION

Emergency Overview

CAUTION! Causes eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing dust or spray mist.

Potential Health Effects

Based on animal data, eye contact with ESCORT XP may cause eye irritation with tearing, pain or blurred vision.

Based on animal data, repeated dermal contact with the active ingredient may cause skin irritation with itching, burning, redness, swelling or rash.

Carcinogenicity Information

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARe, NTP, OSHA or ACGIH as a carcinogen.

FIRST AID MEASURES

First Aid

IF ON SKIN OR CLOTHING: 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.

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 for further treatment advice.

IF SWALLOWED: No specific intervention is indicated as the product is not likely to be hazardous by ingestion. Consult a physician if necessary.

IF INHALED: No specific intervention is indicated as the product is not likely to be hazardous by inhalation. Consult a physician if necessary.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-441-3637 for emergency medical treatment information.

FIRE FIGHTING MEASURES

Flammable Properties

Not a fire or explosion hazard.

Like most organic powders or crystals, under severe dusting conditions, this material may form explosive mixtures in air.

Extinguishing Media

Water Spray, Foam, Dry Chemical, C02.

Fire Fighting Instructions

Evacuate personnel to a safe area. Wear self-contained breathing apparatus. Wear full protective equipment. Use water spray. Runoff from fire control may be a pollution hazard.

If area is exposed to fire and conditions permit, let fire burn itself out. Burning chemicals may produce by-products more toxic than the original material. If product is on firs, wear self-contained breathing apparatus and full protective equipment. Use water spray. Control runoff.

ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)

NOTE:" Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Emergency Response - Chemical resistant coveralls, waterproof gloves, waterproof boots and face/eye protection. If dusting occurs, use NIOSH approved respirator protection.

Initial Containment

Dike spill. Prevent material from entering sewers, waterways, or low areas.

Follow applicable Federal, State/Provincial and Local laws/ regulations.

Spill Clean Up

Shovel or sweep up.

HANDLING AND STORAGE

Handling (Personnel)

Avoid breathing vapors or mist. Avoid breathing dust. Avoid contact with eyes, skin, or clothing. Wash thoroughly after handling. Wash clothing after use. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material.

USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Handling (Physical Aspects)

Keep away from heat, sparks and flames.

Storage

Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in a cool, dry place. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Use only with adequate ventilation.

Personal Protective Equipment

Always follow the label instructions when handling this product.

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 Buch instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

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.
Shoes plus socks.

Exposure Guidelines

Applicable Exposure Limits

METSULFURON METHYL

PEL	(OSHA)	None Established
TLV	(ACGIH)	None Established
AEL *	(DuPont)	10 mg/m3, 8 & 12 Hr. TWA

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

PHYSICAL AND CHEMICAL PROPERTIES

Physical Data

Solubility in Water	Dispersible
Odor	Slight
Form	Solid granule
Color	Light brown
Specific Gravity	1.47 @ 25C (77F)

Bulk Density (Tap Bulk Density) : 0.64 - 0.74 g/mL

STABILITY AND REACTIVITY

Chemical Stability

Stable at normal temperatures and storage conditions.

Incompatibility with Other Materials

None reasonably foreseeable.

Decomposition

Decomposition will not occur.

Polymerization

Polymerization will not occur.

TOXICOLOGICAL INFORMATION

Animal Data

ESCORT XP

Oral LDSO:	> 5000 mg/kg in rats (Very low toxicity)
Skin LD50;	> 2000 mg/kg in rabbits (Slight to moderate toxicity)

ESCORT XP is a slight eye irritant, but is not a skin irritant or skin sensitizer in animal tests.

- Continued)

Metsulfuron Methyl
Inhalation LeSO, 4 hr: > 5.3 mg/L in rats
(Very low toxicity)

Single exposures of animals to Metsulfuron Methyl by inhalation caused body weight loss and other nonspecific effects.

Repeated applications of Metsulfuron Methyl to the skin of rabbits caused skin irritation but no other changes were observed.

Repeated oral doses of Metsulfuron Methyl produced decreased body weight gain and decreased liver weights when compared to the control group. Long term administration caused body weight loss.

Animal testing indicates that Metsulfuron Methyl does not have carcinogenic, developmental, or reproductive effects.

There is a report indicating that Metsulfuron Methyl produced genetic damage in a mammalian cell culture test; however, other tests with Metsulfuron Methyl in bacterial and mammalian cell cultures and in animals did not produce genetic damage. The weight of evidence suggests that Metsulfuron Methyl does not cause genetic damage.

ECOLOGICAL INFORMATION

Ecotoxicological Information

AQUATIC TOXICITY:
METSULFURON METHYL
96 hour LCSO Rainbow trout: > 150 ppm.
96 hour LCSO - Bluegill sunfish: > 150 ppm.

AVIAN TOXICITY:
METSULFURON METHYL
LDSO Mallard Duck: > 2510 mg/kg.
LCSO - Bobwhite Quail: > 5620 mg/kg

DISPOSAL CONSIDERATIONS

Waste Disposal

Do not contaminate water, food, or feed by disposal. Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/provincial, and local regulations.

ENVIRONMENTAL HAZARDS:

(DISPOSAL CONSIDERATIONS Continued)

Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters。

This herbicide is injurious to plants at extremely low concentrations. Nontarget plants may be adversely effected from drift and run-off.

Container Disposal

For Plastic Containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, 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.

For Fiber Sacks: Completely empty fiber sack by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into manufacturing or application equipment. Then dispose of sack in a sanitary landfill or by incineration if allowed by state and local authorities.

For Fiber Drums with Liners: Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by State and local authorities. If drum is contaminated and cannot be reused, dispose of in the same manner.

For Bags Containing Water Soluble Packets: Do not reuse the outer box or the resealable plastic bag. When all water-soluble packets are used, the outer packaging should be clean and may be disposed of in a sanitary landfill or by incineration, or if allowed by State and local authorities, by open burning. If burned, stay out of smoke. If the resealable plastic bag contacts the formulated product in any way, the bag must be triple-rinsed with clean water. Add the rinsate to the spray tank and dispose of the outer wrap as described above.

For Metal Containers (non aerosol): Triple rinse (or equivalent) the container. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities.

For Paper and Plastic Bags: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

TRANSPORTATION INFORMATION

Shipping Information

DOT/IMO
Proper Shipping Name : NOT REGULATED

REGULATORY INFORMATION

U.S. Federal Regulations

TITLE **III** HAZARD CLASSIFICATIONS SECTIONS 311, 312

Acute	**Yes**
Chronic	**No**
Fire	**No**
Reactivity	**No**
Pressure	**No**

In the United States this product is regulated by the US Environmental Protection Agency under the Federal Insecticide, Fungicide and Rodenticide Act. It is a violation of federal law to use this product in a manner inconsistent with its labeling.

EPA Reg. No. 352-439

OTHER INFORMATION

NFPA, NPCA-HMIS

NFPA Rating	
Health	1
Flammability	1
Reactivity	0

NPCA-HMIS Rating	
Health	1
Flammability	1
Reactivity	0

Personal Protection rating to be supplied by user depending on use conditions.

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use *in* combination with any other material or in any process.

Responsibility for MSDS:	**DuPont Crop Protection**
Address	**Wilmington, DE 19898**
Telephone	1-888-638-7668

(Continued)

 # Indicates updated section.

This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained.

End of MSDS

Specimen

Dow AgroSciences

Garlon® 3A

(≥

rights-of-way

clothing.

First Aid

If In eyes: Hold eye open and rinse slowly and genlly 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 *for* treatment advice.

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor tor trealment advice.

If swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person. Have the product container or label with you when calling a control center or doctor, or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment Information.

Note to Applicator: Allergic skin reaction is not expected from exposure to spray mixtures of Garlon 3A herbicide when used as directed.

Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.

groundwater contamlnation.

Physical or Chemical Hazards

Combuslible. Do nol use or slore the product near heat or open flame.

Notice: Read the entire label. Use only according to label directions. Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies elsewhere on this label. If terms are unacceptable, return at once unopened.

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994. If you wish to obtain additional product information, visit our web site at www.dowagro.com.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistenl with its labeling.
Read all Directions for Use carefully before applying.

Do not apply Ihis 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 slate or tribe, consult the agency responsible for pesticide regulation

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Prolection 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 pesticidos. It contains requirements 10r 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 46 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
- Shoes plus socks
- Proteclive eyewear
- Chemical-resistant gloves ≥ 14 mils) such as butyl rubber, natural rubber, neoprene rubber or nitrile rUbber

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT the scope 01 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.

Entry Restrictions for Non-WPS Uses: For applications to non-cropland areas, do not allow entry into areas unlil sprays have dried. unless applicator and other handler PPE worn.

Storage and Disposal

Do not contaminate water, food, or feed by storage and disposal. Open dumping is prohibited.
Pesticide Storage: Store above 28°F or agitate before use.
Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facilily.
Conlainer Disposal for Refillable Containers: Seal all openings which have been opened during use. Return the empty container to a collection site designated by Dow AgroSciences. If the container has been damaged and cannot be returned according to recommended procedures, contact Dow AgroSciences Customer Service Center at 1-800-258-1470 to obtain proper handling instructions.
Container Disposal (Metal): Do not reuse container. Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanltary landfill, or by other procedures approved by state and local authorities.
Container Disposal (Plastic): Do not reuse container. Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities. by burning. If burned, stay oul of smoke.
General: Consult federal, slate, or local disposal authorities for approved alternative orocedures.

communication lines, pipelines, roadsides, railroads, fence rows, non-irrigation ditch banks, and around farm buildings, Including application to grazed areas, and establishment and maintenance of wildlife openings on these sites, and in Christmas Iree plantations. Use within production forests and industrial non-crop sites (including those above) may include applications to control target vegetation in and around standing water sites, such as marshes, wetlands, and the banks of ponds and lakes.

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

General Use Precautions and Restrictions

For use in New York State, comply with Section 24(c) Special Local Need labeling for Garlon 3A, SLN NY-060002.

In Arizona: The state of Arizona has not approved Garlon 3A lor use on plants grown for commercial production, specifically forests grown for commercial timber production, or on designated grazing areas.

When applying this product in tank mix combination, follow all applicable use directions, precautions and limitations on each manufacturer's label.

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

Do not apply Garlon 3A directly to, or otherwise permit it to come into direct contact with, grapes, tobacco, vegetable crops, flowers, or other desirable broadleaf plants. Do not permit spray mists containing Garlon 3A to drift onto such plants.

It is permissible to treat non·Irrigation ditch banks, seasonally dry wetlands (such as flood plains, deltas, marshes, swamps, or bogs) and transitional areas between upland and lowland sites.

Water treated with'Garlon 3A may not be used for irrigation purposes for 120 days after application or until residue levels of Garlon 3A are determined by laboratory analysis, or other appropriate means of analysis, to be 1 ppb or less.

Seasonal Irrigation Waters: Garlon 3A may be applied during the off·season to surface waters that are used for irrigation on a seasonable basis provided that there is a minimum of 120 days between applying Garlon 3A and the first use of treated water for irrigation purposes, or residue lavels of Garlon 3A are determined by laboratory analysis, or other appropriate means of analysis, to be 1 ppb or less.

Irrigation Canals/Ditches: 00 not apply Garlon 3A to irrigation canals/ditches unless the 120-day restriction on irrigation water usage can be observed or residue levels of Garlon 3A are determined by laboratory analysis, or other appropriate means of analysis, to be 1 ppb or less.

- Do not apply to salt water bays or estuaries.
- Do not apply directly to un-impounded rivers or streams.
- Do not apply on ditches or canals currently being used to transport irrigation water or that will be used for irrigation within 4 months following treatment. It is permissible to treat irrigation and non-irrigation ditch banks.
- Do not apply where runoff water may flow onto agricultural land as injury to crops may result.
  When making applications to control unwanted plants on banks or shorelines of moving water sites, minimize overspray to open water. The use of a mistblower is not recommended.
- Apply no more than 2 lb ae of triclopyr (2/3 gallon of Garlon 3A) per acre per growing season on range and pasture sites, including rights-of·way, fence rows or any area where grazing or harvesting is allowed. On forestry sites, Gar10n 3A may be used at rates up to 61b ae of triclopyr (2 gallons of Garlon 3A) per acre per year.
- For all terrestrial use sites other than range, pasture, forestry slles. and grazed areas, the maximum application rate is 9 lb ae of triclopyr (3 gallons of Garlon 3A) per acre per year.

Precautions for Potable Water Intakes for Emerged.Aquatic Weed Control

See chart below for specific setback distances near functioning potable water intakes. Note: EXisting potable water intakes which are no longer in use, such as those replaced by potable water wells or connections to a municipal water system, are not considered to be functioning potable water Intakes. These setback restrictions do not apply to terrestrial applications made adjacent to potable water intakes.

	Garlon 3A Application Rate, qtlacre			
Area Trealed (acres)	2 aUaere	4 aUaere	6 qtlacre	8 qtlacre
	Setback Distance (fU			
4	0	200	400	500
>4 - 8	0	200	700	900
>8·16	0	200	700	1000
>16	0	200	900	1300

To apply Garlon 3A around and within the distances noted above from a functioning potable water intake, the intake must be turned off until the triclopyr level in the intake water is determined to be 0.4 parts per million (ppm) or less by laboratory analysis or immunoassay.

Recreational Use of Water in Treatment Area: There are no restrictions on use of water in the treatment area for recreational purposes, including swimming and fishing.

- Livestock Use of Water from Treatment Area: There are no restrictions on livestock consumption of water from the treatment area.

Grazing and Haying Restrictions

Except for lactating dairy animals, there are no grazing restrictions following application 01 this product.

- Grazing Lactating Dairy Animals: Do not allow lactating dairy animals to graze treated areas until the next growing season following application of this product.
  Do not harvest hay for 14 days after application.
  Grazed areas of non-cropland and forestry sites may be spot treated jf they comprise no more than 10% of the total grazable area.

or temperature inversions (stable air). If the smoke layers or indicates a potential of hazardous spray drift, do not spray.

Aerial Application: For aerial application on rights-of-way or other areas near susceptible crops, apply through a MIcrofoll[t] or Thru-Valve boom[t], or use an agriculturally labeled drift control additive. Other drift reducing systems or thickened sprays prepared by using high viscosity inverting systems may be used if they are made as drift-free as mixtures containing agriculturally labeled thickening agents or applications made with the Microfoil or Thru-Valve boom. Keep spray pressures low enough to provide coarse spray droplets. Spray boom should be no longer than 3/4 of the rotor length. Do not use a thickening agent with the Microfoil or Thru-Valve booms, or other systems that cannot accommodate thick sprays. Spray only when the wind velocity low (follow state regulations). Avoid application during air inversions, If a spray thickening agent is used, follow all use recommendations and precautions on the product label.

[t] Reference within this label a particular piece of equipment produced by or available from other parties is provided without consideration for use by the reader at its discretion and subject to the reader's independent circumstances, evaluation, and expertise. Such reference by Dow AgroSciences not intended as an endorsement of such equipment, shall not constitute a warranty (express or implied) of such equipment, and is not intended to imply that other equipment is not available and equally suitable. Any discussion of methods of use of suoh equipment does not imply that the reader should use the equipment other than is advised in directions available from the equipment's manufacturer. The reader is responsible for exercising its own judgment and expertise, or consulting with sources other than Dow AgroSciences, in selecting and determining how to use its equipment.

Spray Drift Management

Avoiding spray drift at the application site is the responsibility of the The interaction of many equipment and weather related iactors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed avoid drift movement from aerial applications:

1. The distance of the outer most operating nozzles on the boom must not exceed 3/4 the length of the rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the Informaiion 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 - not exceed the nozzle manufacturer's recommended pressures. For many nOlzle 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 provide uniform coverage.
- Nozzle Orientation" Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant defleclion 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: For use reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

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 adjustmenl dislance should increase, with increasing 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 below 2 mph due to variable wind direction and high inversion potential. Note: Local terrain can influence wind patlerns. 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 drople1s to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

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.

Sensitive Areas: The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

Ground Equipment: To aid In reducing spray drift, Garlon 3A should be used thickened (high viscosity) spray mixtures using an agriculturally labeled drift control additive, high viscosity invert system, or equivalent as directed by the manUfacturer. With ground equipment, spray drift can be roduced by keeping the spray boom as low as possible; by applying 20 gallons or more of spray per acre; by keeping the operating spray pressures at the lower end of the manufacturer's recommended pressures for the specific nozzle type used (low pressure nozzles are available from spray equipment manufacturers); and by spraying when wind velocity is low (follow state regulations). In hand-gun applications, select the minimum spray pressure that will provide adequate plant coverage (Without forming a mist). Do not apply with nozzles that produce a fine-droplet spray.

High Volume **Leaf-Stem** Treatment: To minimize spray drift, do not use pressure exceeding 50 psi at the spray nozzle and keep sprays no higher than brush tops. An agriculturally labeled thickening agent may be used to reduce drift.

Plants Controlled by Garlon 3A

Woody Plant Species

alder	dogwood	salt cedar""
arrowwood	elderberry	salmonberry
ash	elm	sassafras
aspen	gallberry	scotch broom
Australian pine	hazel	sumac
bear clover (bearmat)	hornbean	sweetbay magnolia
beech	kUdzu[l]	sweetgum
birch	locust	sycamore
blackberry	madrone	tanoak
blackgum	maples	thimbleberry
Brazilian pepper	mulberry	tulip poplar
cascara	oaks	waxmyrtle
ceanothus	persimmon	western hemlock
cherry	pine	rose
chinquapin	poison ivy	willow
choke cherry	poison oak	winged elm
cottonwood	poplar	
crataegus (hawthorn)	salt-bush *(Baccharis* spp.)	
Douglas fir		

'For complete control, re-treatment may be necessary.
'lUse cut surface treatments for best results.

Annual and Perennial Broadleaf Weeds

bindweed	lambsquarter	Spanish needles!
burdock	Mexican	common beggarthicks
Canada thistle	petunia	tansy ragwort
chicory	plantain	tropical soda apple
curly dock	purple loosestrife	vetch
dandelion	ragweed	wedelia
field bindweed	smartweed	wildletluce

Purple Loosestrife *(Lythrum salicarla)*

Purple loosestrife can be controlled with foliar applications of Garlon 3A. For broadcast applications, use a minimum of 4 1/2 to 6 lb ae of triclopyr (6 to 8 quarts of Garlon 3A) per acre. Apply Garlon 3A when purple loosestrife is at the bud to mid-flowering stage of growth. Follow-up applications for control of regrowth should be made the following year in order to achieve increased control of this weed species. For applications, a non-ionic surlactant should be added to the spray mixture. Follow all directions and use precautions on the label of the sUrfactant. Thorough wetting of the foliage and stems is necessary to achieve satisfactory control. A minimum spray volume of 50 gallons per acre is recommended for ground broadcast applications.

If using a backpack sprayer, a spray mixture containing 1% to 1.5% Garlon 3A or 5 to 7.6 fl oz of Garlon 3A per 4 gallons of water should be used. All purple loosestrife plants should be thoroughly wetted.

Application Methods

Use Garlon- 3A specialty herbicide at rates of 3!4 to 9 lb ae of triclopyr (1/4 to 3 gallons of Garlon 3A) per acre to control broadleaf weeds and woody plants. In all cases, use the amount specified in enough water to give uniform and complete coverage of the plants to be controlled. Use only water suitable for spraying. Use an agriculturally labeled non-ionic surlactant-for all foliar applications. When using surfactants, follow the use directions and precautions listed on the surtactant manufacturers label. Use the higher concentrations of surlactant in the spray mixture when applying lower spray volumes per acre. The order of addition to the spray tank is water, spray thickening agent (if used), additional herbicide (if used), and Garlon 3A. Surfactant should be added to the spray tank last or as recommended on the product label. If combined with emulsifiable concentrate herbicides, moderate continuous adequate agitation is required.

Before using any recommended tank mixtures, read the directions and all use precautions on both labels.

For best results, apply when woody plants and weeds are actively growing. When hard to control species such as ash, blackgllm, choke cherry, elm, maples, oaks, pines, or winged elm are prevalent and during applications made in late summer when the plants are mature and during drought conditions, use the higher rales of Garlon 3A alone or in combination with Tordon-10t specialty herbicide. (Tordon 101 Mixture is a restricted use pesticide. See product label.) Tordon 101 Mixture is not registered for use in the states of California and Florida.

When using Garlon 3A in combination with 2,4-D 3.81b amine, like DMA 4 IVM, or low volatile ester herbicides, generally the higher rates should be used for satisfactory brush control.

Acre

Volume (aal/.crel	(g.I/100 g.1 af spray)	Sites[†] (g.1/100 g.1 af spray)	Non-Cropland Sites[1tt] (g.1/100 g.1 af spray)
400	00 not	0.5	0.75
300	Do not use	0.67	1
200	Do not use	1	1.5
100	0.67	2	3
50	1.33	4	6
40	1.67	5	7.5
30	2.33	6.65	10
20	3.33	10	15
10	6.67	20	30

[t] Do not exceed the maximum use rate of 2 ae of triclopyr (2/3 gal of Garlon 3A)/acre/year.

[tt] Do not exceed the maximum use rate of 6 lb ae of triclopyr (2 gal of Garlon 3A)/acre/year.

[†††] Do not exceed the maximum use rate of 9 lb ae of triclopyr (3 gal of Garlon 3A)/acre/year on non-cropland use sites other than rangeland, pasture, forestry, and grazed areas.

Low Volume Foliage Treatment

To control susceptible woody plants, apply up to 151b ae of triclopyr (5 gallons of Garlon 3A) in 10 to 100 gallons of finished spray. The spray concentration of Garlon 3A and total spray volume per acre should be adjusted according to the size and density of target woody plants and kind of spray equipment used. With low volume sprays, use sufficient spray volume to obtain uniform *coverage* of target plants Including the surfaces of all foliage, stems, and root collars (see General Use Precautions and Restrictions). For best results, a surfactant 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.

Tank Mixing: As a low volume foliar spray, up to 91b ae at triclopyr (3 gallons of Garlon 3A) may be applied in tank mix combination with 1/2 to 1 gallon of Tordon K or 1 to 2 gallons of Tordon 101 Mixture in 10 to 100 gallons of finished spray. Tordon 101 Mixture and Tordon K are not registered for use in the states of California and Florida.

Broadcast Applications With Ground Equipment

Apply using equipment that will assure uniform coverage of the spray volumes applied. To improve spray coverage, add an agriculturally labeled non-ionic surfactant as described later under Directions for Use. See Maximum Labeled Rate versus Spray Volume per Acre table above for relationship between mixing rate, spray volume and maximum application rate.

Woody Plant Control

Foliage Treatment: Use 6 to 9 lb ae of triclopyr (2 to 3 gallons of Garlon 3A) in enough water to 20 to 100 gallons 01 total spray per acre or 1 1/2 to 3 lb ae of triclopyr (1/2 to 1 gallon of Garlon 3A) may be combined with 1 to 2 gallons of 2,4-0 3.8 lb amine, like DMA 4 IVM, or low volatile esters or Tordon 101 Mixture in sufficient water to make 20 to 100 gallons of total spray per acre. Tordon 101 Mixture is not registered for use in the states of California and Florida.

Broadleaf Weed Conlrol

Use Garlon 3A at rates of 1 to 41/2 lb ae of trlc10pyr (1/3 to 1 1/2 gallons of Garlon 3A) a total volume of 20 to 100 gallons of water per acre. Apply any time during the growing season. Garlon 3A at 1 to 3 lb ae of triclopyr (1/3 to 1 gallon of Garlon 3A) may be tank mixed 1/2 to 1 gallon of Tordon K, Tordon 101 Mixture or 2,4-D 3.81b amine, like DMA 4 IVM, or low volatile herbicides to improve the spectrum of activity. Tordon 101 Mixture and Tordon K are not registered for use in the states of California and Florida.

Aerial Application (Helicopter Only)

Aerial sprays should be using suitable drift control. (See General Use Precautions and Restrictions.) Add an agriculturally labeled non-ionic surfactant as described under Directions for Use. See Maximum Labeled Rate versus Spray Volume per Acre table above for relationship between mixing rate, spray volume and maximum application rale.

the states of California and Florida.

Note: Conifers planted sooner than one month after treatment with Garlon 3A at less than 4 lb ae of triclopyr (1 1/3 gallons of Garlon 3A) per acre or sooner than two months after treatment at 4 to 91b ae of triclopyr *(1 1/3* to 3 gallons of Garlon 3A) per acre may be injured. When tank mixtures of herbicides are used for forest site preparation, labels for all products in the mixture should be consulted and the longest recommended wailing period before planting observed.

Directed Spray Applications for Conifer Release

To release conifers from competing hardwoods such as red maple, sugar maple, striped maple, sweetgum, red and white oaks, ash, hickory, alder, birch, aspen, and pin cherry, mix 3 to 61b ae of triclopyr (1 to 2 gallons of Garlon 3A) in enough water to make 100 gallons of spray mixture. To improve spray coverage, add an agriculturally labeled non-ionic surfactant as described under Directions for Use. The spray mixture should be directed onto foliage of competitive hardwoods using knapsack or backpack sprayers with flat fan nozzles or equivalent any time after hardwoods have reached full leaf size, but before autumn coloration. The majority of treated hardwoods should be less than 6 feet in height to ensure adequate spray coverage. Care should be taken to direct spray away from contact with conifer particularly foliage of desirable pines.

Note: Spray may cause temporary damage and growth suppression where contact with conifers occurs; however, injured conifers should recover and grow normally. Over-the-top spray applications can kill pines.

Broadcast Applications for Conifer Release in the Northeastern United States

To release spruce, fir, red pine and white pine from competing hardwoods, such as red maple, sugar maple, striped maple, alder, birch (white, yellow or gray), aspen, ash, pin cherry and *Rubus* spp. and perennial and annual broadleaf weeds, use Garlon 3A at rates of 1 1/2 to 3 lb ae of triclopyr (2 to 4 quarts of Garton 3A) per acre alone or with 2,4-0 amine, DMA 4 IVM, or 2,4-0 ester to provide no more than 41b ae per acre from both products. Apply in late summer or early fall after conifers have formed their over wintering buds and hardwoods are In full leaf and prior to autumn coloration.

Broadcast Applications for Douglas Fir Release in the Pacific Northwest and California

To release Douglas fir from susceptible compe1ing vegetation SUch as broadleaf weeds, alder, blackberry or Scotch broom, apply Garlon 3A at Ito 1 1/2lb ae of triclopyr (1 1/3 to 2 quarts of Garlon 3A) per acre alone or in combination with 4 lb per acre of atrazine. Mix all sprays in a water carrier with a non-ionic surfactant. Apply in early spring after hardwoods begin growth and before Douglas fir bud break hardwood stage) or after Douglas fir seasonal growth has off" (set winter buds) in late summer, but while hardwoods are still actively growing. When treating after Douglas fir bud set, apply prior to onset of autumn coloration in hardwood foliage. Note: Treatments applied during active Douglas fir shoot growth (after spring bud break and prior to bud set) may cause injury to Douglas fir trees.

CUI Surface Treatments

To control unwanted trees of hardwood species such as elm, maple, oak and conifers in labeled sites, apply 3A specialty herbicide, either undiluted or diluted in a 1 to 1 ratio with water, as directed below.

With Tree Injector Method

Apply by injecting 1/2 milliliter of undiluted Garlon 3A or 1 milliliter of the diluted solution through the bark at inlervals 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.

Wilh 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 *1/2* milliliter of undiluted Garlon 3A or 1 milliliter of the diluted solution into the pocket created belween the bark and the inner stemltrunk 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 undiluted or diluted solution.

Bolh of the above methods may be used successfully at any season except during periods of heavy sap flow of certain species - for example, maples.

well established as indicated by vigorous growth and development of secondary rool system and tillering

Newly seeded turf (alleyways, etc.) should be mowed two or three times before any treatment with Garlon 3A.

Do not reseed Christmas tree areas treated with Garlon 3A for a minimum of three weeks after application.

Do not use Garlon 3A if legumes, such as clover, are present and injury cannot be tolerated.

Spray Preparation

The order of addition to the spray tank is water, drift control agent (if used), non-ionic agricultural surfactant and Garlon 3A. Continue moderate agitation while mixing and spraying. Use a non-ionic agricultural surfactant for applications. When using surfaclants, follow use directions and precautions listed on the manufacturer's label. Use the higher recommended concentrations of surfactant in the spray mixture when applying tower spray volumes per acre.

Application

Apply in late summer or early autumn after terminal growth of Christmas trees has hardened of, but before leaf drop of, target weeds. Apply at a rate of 3/4 to 1 3/4 Ib ae of triclopyr (2 to 5 pints of Garlon 3A) per acre as a foliar spray directed toward the base of Christmas trees. Use sufficient spray volume to provide uniform coverage of target plants (20 to 100 gallons per acre). Do not apply with 2,4-0. Application rates of Garlon 3A recommended for Christmas trees only suppress some well ostablished woody plants that are greater Ihan 2 to 3 years old (see table below). Broadcast sprays may also be applied in bands between the rows of planted trees. Use spray equipment that will assure uniform coverage of the desired spray volume.

Spray solution from Garlon 3A can cause needle and branch injury to Christmas trees_ To minimize injury to Christmas trees, direct so as to minimize contact with foliage. Blue spruce, white spruce, balsam fjr and Frasier fir are less susceptible to injury than white pine and Douglas fir.

Restriction: Apply Garlon 3A only to Christmas trees that were planted at least one full year prior to application.

Application Rates and Species Controlled:

	Oarlon 3A	
2 pints/acre 13/4 Ib ae of triclODvr\	3 to 4 pints/acre (1 1/2 Ib ae of tricloDvr\	5 pints/acre (1 3/4 Ib ae of triclODvr\
clover	bindweed, field (TG)	arrowwood (SOL)
dandelion	blackberryt	aspen
dock, curly	chicory (s)	beech (SOL)
lambsquarters	fireweed	birch (SOL)
lespedeza	ivy, ground	chinquapin
plantain, broadleaf	lettuce, wild	cottonwood (SOL)
plantain, buckhorn	oxalis	elderberry
ragweed, common	poison ivy	grape, wild
vetch	smartweed (TG)	mulberry (SOL)
	thistle, Canada (TG)	poplar (SOL)
	violet, wild	sassafras (SOL)
	Virginia creeper[t]	sumac (SOL)
		s"camore (SOU

(TG) Top growth control, retrealmenl may be necessary
(S) Suppression
(SOL) Seedlings less than 2 to 3 years old
tUse 4 pint per acre rate

Directed Applications

To control hardwoods such as red maple, sugar maple, striped maple, sweetgum, red and white oaks, ash, alder, birch, aspen, and pin cherry, mix 4 to 20 fl oz of Garlon 3A in enough water to make 3 gallons of spray mixture. For directed applications, do not exceed 6Ib ae of triclopyr (2 gallons of Garlon 3A) per acre per year. To improve coverage, add a non-ionic agricultural surfactant to the spray. This spray mixture should be directed onto foliage of hardwoods using knapsack or backpack sprayers with flat fan nozzles or equivalent any lime after hardwoods have reached full leaf size, bul before autumn coloration (when plants are actively growing). The majority of treated hardwoods should be less than 8 feet in to ensuro adequate spray coverage. Note: To prevent Christmas tree injury, cara should be taken 10 direct spray away from contact wilh Christmas tree foliage.

Cut Surface Treatments

When treating large brush or trees or hard to control species such as ash, blackgum, choko cherry, elm, hazel, madrene, maples, oaks, salt cedar or sweetgum, and for applications made during drought conditions or in late summer when the leaves are mature, use cut surface treatments. (See directions for Cui Surface Treatments in preceding seclion of this labeL)

Wetland Sites in Production Forests and Industrial Non-Crop Areas

Garlon® 3A specialty herbicide may be used within production forests and industrial non-crop sites to control target vegetation in and around standing water sites, such as marshes, wetlands, and the banks of ponds lakes and transition areas between upland and lowland sites.

For control of woody plants and broadleal weeds in these sites, follow use directions and application methods on this label for forestry and non-cropland

6. Added Australian pine, and salt cedar to woody plant species.
7. Added Mexican petunia, Spanish needles/common beggarthicks, tropical soda apple, and wedelia to annual and perennial broadleaf weeds species.

Garlon* 3A

EPA Reg. No. 62719-37

Wetland Sites in Production Forests and Industrial Non-Crop Areas

ATTENTION

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

- This labeling must be In the possession of the user at the time of application.
- Read the label affixed to the container for Garlon* 3A specialty herbicide before applying. Carefully follow all precautionary statements and applicable use directions.
- Use of Garlon 3A according to this supplementai labeling Is subject to all use precautions and limitations Imcosed bv the label affixed to the container for Garlon 3A.

Directions for Use

Garlon 3A may be used within production forests and industrial non-crop sites to control target vegetation in and around standing water sites, such as marshes, wetiands, and the banks of ponds and lakes and transilion areas between upland and iowiand sites.

For control of woody plants and broadleaf weeds in these sites, follow use directions and application methods on this label for forestry and terrestrial non-cropland sites.

Plants Controlled by Garlon 3A

Woody Plant Species

alder	Douglas-fir	poplar
arrowwood	dogwood	salt-bush *(Baccharis* spp.)
ash	elderberry	sassafras
aspen	elm	scotch broom
bear clover (bearmat)	gallberry	sumac
beech	hazel	sweetbay magnolia
birch	hornbean	sweetgum
blackberry	kudzut	sycamore
blackgum	locust	tanoak
Brazilian pepper	madrone	thimbleberry
cascara	mapies	tulip poplar
ceanothus	mulberry	wax myrtle
cherry	oaks	western hemlock
chinquapin	persimmon	wild rose
choke cherry	pine	willow
cottonwood	poison ivy	winged elm
crataegus (hawthorn)	poison oak	salmonberry

tFor complete control, retreatment may be necessary.

Appendix B - Garlon 3A Supplemental Information

Annual and Perennial Broadleaf Weeds

bindweed	dandelion	ragweed
burdock	field bindweed	smartweed
Canada thistle	lambsquarter	tansy ragwort
chicory	plantain	vetch
curiy dock	Purple loosestrife	wild lettuce

Maximum Labeled Rate versus Spray Volume per Acre

Total Spray Volume (gal/acre)	Maximum Rate of Garlon 3A	
	Forestry Sites' (9a1/100 oal of spravl	Other Non-Cropland Sites' , (oa1/100 oal of soravl
400	0.5	0.75
300	0.67	1
200	1	1.5
100	2	3
50	4	6
40	5	7.5
30	6.65	10
20	10	15
10	20	30

t Do not exceed the maximum use rate of 6 lb ae of triclopyr (2 gal of Garlon 3A)/acre/year.
tt Do not exceed the maximum use rate of g lb ae of triclopyr (3 gal of Garlon 3A)/acre/year on non-cropland use sites other than rangeland, pasture, forestry, and grazed areas.

Precautions for Potable Water Intakes for Emerged Aquatic Weed Control

See chart below for specific setback distances near functioning potable water intakes. Note: Existing potable water intakes which are no longer in use, such as those replaced by potable water wells or connections to a municipal water system, are not considered to be functioning potable water intakes. These setba.ck restrictions do not apply to terrestrial applications made adjacent to . alable water intakes.

	Garlon 3A Application Rate, at/acre			
Area Treated	2 at/acre	4 at/acre	6 at/acre	8 at/acre
(acres)	Setback Distance 1ft)			
4	0	200	400	500
>4 - 8	0	200	700	900
>8 - 16	0	200	700	1000
>16	0	200	900	1300

To apply Garlon 3A around and within the distances noted above from a functioning potable water intake, the intake must be turned off until the triclopyr level in the intake water is determined to be 0.4 parts per million (ppm) or less by laboratory analysis or immunoassay.

- Recreational Use of Water In Treatment Area: There are no restrictions on use of water in the treatment area for recreational purposes, including swimming and fiShing.
- Livestock Use of Water from Treatment Area: There are no restrictions on livestock consumption of water from the treatment area.

Use Precautions and Restrictions:

- Do not apply to salt water bays or estuaries.
- Do not apply directly to un-impounded rivers or streams.
- Do not apply on ditches or canals used to transport irrigation water. It is permissible to treat non-irrigation ditch banks.
- Do not apply where runoff water may flow onto agricultural land as injury to crops may result.
- When making applications to control unwanted plants on banks or shorelines of moving water sites, minimize overspray to open water.
- The use of a mistblower is not recommended.
- On forestry sites, Garlon 3A may be used at rates up to 6 lb ae of triclopyr (2 gallons of Garlon 3A) per

acre per year.

- For all terrestrial use sites other than range, pasture, forestry sites, and grazed areas, the maximum application rate is 9 lb ae of triclopyr (3 gallons of Garlon 3A) per acre per year.
- Minimize overspray to open water when treating target vegetation in and around non-flowing, quiescent or transient water. When making applications to control unwanted plants on banks or shorelines of flowing water, minimize overspray to open water.
- Consuillocal public water control authorities before applying this product in and around public waler. Permits may be required to treat such areas.

***Trademark of Dow AgroSciences LIC**

D06-101-002
EPA-accepted *12103/02*
Initial printing.

Garlon* **3A**

EPA Reg. No. 62719-37

24(c) Special Local Need Registration SLN CA 010001
(For Distribution and Use Only in the State of California)

Cut Stump Treatment following Orchard Tree Removal

ATTENTION

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

- This labeling must be in the possession of the user at the time of application.
- Read the label affixed to the container for Garlon 3A before applying. Carefuiiy foHow aH precautionary statements and applicable use directions.
- Except as directed in this supplemental labeling, use of Garlon 3A according to this supplemental labeling is subject to aii use precautions and limitations imposed by the label affixed to the container for Garlon 3A.

Directions for Use

Garlon' 3A herbicide may be applied to the cut surfaces of stumps foHowing tree removal in orchards to kill existing root systems which serve as harborage for obligate nematode parasites. This treatment prevents regrowth and hastens the death of the root systems foHowing tree removal. Do not use this treatment in orchards being thinned due to the potential for damage to surrounding trees as a result of root grafting.

Mixing: Use Garlon 3A undiluted or a 1:3 mixture of Garlon 3A and Mar-Act or equivalent surfactant.

Application: Apply by spraying or painting the surfaces of freshly cut stumps, making sure the cambium area nex1to the bark is uniformly wetted. Use low-pressure spray equipment or brush and apply only to cut surfaces and adjacent bark, avoiding runoff. For best reSUlts, apply as soon as possible foliowing tree removal.

Grazing/Haying Restrictions: Planting a cover crop in treated areas is permissible. Refer to product label for restrictions that may be applicable to grazing or harvest of green forage or hay.

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D06-101-001
Approved *01/17/01*
Initial printing.

Garlon® **3A**

EPA Reg. No. 62719-37

For Distribution and Use in the States of Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, and Wyoming

Control of Salt Cedar *(Tarmarix* spp.) Using Cut Surface Treatments

Garlon® 3A specialty herbicide is recommended for control of salt cedar *(Tamarix* spp.) using cut surface treatment methods. See Cut Surface Treatments section of the container label for Garlon 3A.

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R10l-001
Issued: 08/29/05
Initial printing.

Emergency Phone: 800-992-5994
Dow AgroSciences LLC
Indianapolis, IN 46268

Effective Date: 17-Nov-06
Product Code: 38321
MSDS: 004422

1. PRODUCT AND COMPANY IDENTIFICATION:

2. HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW
Light purple-pink liquid, ammonia-like odor. May cause eye irritation with corneai injury. May cause skin irritation. Toxic to aquatic organisms.

EMERGENCY PHONE NUMBER: 800-992-5994

3. COMPOSITION/INFORMATION ON INGREDIENTS:

COMPONENT	CAS NUMBER	W!W%
Triclopyr TEA Salt.	057213-69-1	44.4
Triethylamine	000121-44-8	3.0
Elhanol	000064-17-5	2.1
Balance		50.5

4. FIRST AID:

EYES: Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferabiy from an ophthalmologist.

SKIN: Wash skin with plenty of water.

INGESTION: Do not induce vomiting. Give one cup (8 ounces or 240 ml) of water or milk if availabie and transport 10 a medical facility. Do not give anything by mouth to an **unconscious person.**

INHALATION: No emergency medical treatment necessary.

NOTE TO PHYSICIAN: Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach & lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheai/esophageal control if lavage is done. If burn is present, treat as any thermal burn, after decontamination. Exposure to amine vapors may cause minor transient edema 01 the corneal epithelium (glaucopsia) with blurred vision, blue haze & halos around bright objects. Effects disappear in a few hours and temporarily reduce ability to drive vehicles. No specific antidote. Treatment 01 exposure should be directed at the control of symptoms and the clinical condition 01 the patient.

15. FIRE FIGHTING MEASURES:

FLASH POINT: 110'F (43'C)
METHOD USED: TCC
FLAMMABLE LIMITS
LFL: Not determined
UFL: Not determined

EXTINGUISHING MEDIA: Alcohol foam and CO_2.

FIRE & EXPLOSION Toxic, irritating vapors may be formed or given off if product is invoived in fire. Although product is water-based, it has a llash point due to the presence of small amounts 01 ethanol and triethylamine.

FIRE-FIGHTING EQUIPMENT: Use positive-pressure, seif-contained breathing apparatus and full protective clothing.

16. ACCIDENTAL RELEASE MEASURES:

ACTION TO TAKE FOR SPILLS/LEAKS: Contain small spills and absorb with an inert material such as clay or dry sand. Report large spills to Dow AgroSciences at 800-992-5994.

17_ HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: HANDLING: Keep out of reach of children. Causes irreversible *eye* damage. Harmful if inhaled or absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic skin reaction in some individuals. Avoid contacl wilh eyes, skin, clothing, breathing vapor, or spray mist. Users should wash hands before eating, drinking, Chewing gum, using tobacco, or using the toilet.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

These precautions are suggested for conditions where the potential for exposure exists. Emergency conditions may require additional precautions.

EXPOSURE GUIDELINE(S):
Ethanol (ethyl alcohol): ACGIH TLV and OSHA PEL are 1000 ppm. ACGIH classification is A4.
Triclopyr TEA Sail: Dow AgroSciences Industrial Hygiene Guideline is 2 mg/M^3 as acid equivalent; Skin.
Triethylamine: ACGIH TLV is 1 ppm TWA, 3 ppm STEL, Skin. OSHA is 10 ppm TWA, 15 ppm STEL.

A "skin" notation following the exposure guideline refers to the potential for dermal absorption of the material including mucous membranes and the eyes either by contact with vapors or by direct skin contact. It is intended to alert the reader that inhalation may not be the only route at exposure and that measures to minimize dermal exposures should be considered.

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

EYE PROTECTION: Use chemical goggles. Eye wash fountain should be located in immediate work area. If exposure causes eye discomfort, use a full-face respirator.

SKIN PROTECTION: When prolonged or frequently repeated contact could occur, use chemically protective clothing resistant to this material. Selection of specific items such as face shield, gloves, boots, and apron or full-body suit will depend on operation.

a NIOSH approved air-purifying respirator.

APPLICATORS AND All OTHER HANDLERS: Refer to the product label for personal protective clothing and equipment.

19. PHYSICAL AND CHEMICAL PROPERTIES:

BOILING POINT: Not determined
VAPOR PRESSURE: Not determined
VAPOR DENSITY: Not applicable
SOLUBILITY IN WATER: Miscible
SPECIFIC GRAVITY: 1.135 (G8/B8·F)
APPEARANCE: Light purple/pink liqUid
ODOR: Ammonia-like odor

110. STABILITY AND REACTIVITY:

STABILITY: (CONDITIONS TO AVOID) Avoid sources of ignition if temperature is near or above flash point.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Any oxidizing agent. Consult manufacturer for specific cases.

HAZARDOUS DECOMPOSITION PRODUCTS: Nitrogen oxides and hydrogen chloride may be formed under fire conditions.

HAZARDOUS POLYMERIZATION: Not known to occur.

111. TOXICOLOGICAL INFORMATION:

POTENTIAL HEALTH EFFECTS: This section includes possible adverse effects, which could occur if this material is not handled in the recommended manner.

EYE: May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur. Vapor of amines may cause swelling of the cornea resulting in visual disturbances such as blurred or hazy vision. Bright lights may appear to be surroundad by halos. Elfects may be delayed and typically disappear spontaneousiy.

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MOVEMENT & PARTITIONING:
Based largely or completely on information for triciopyr.
Bioconcentration potential is low (BCF or Log Pow <3).

DEGRADATION & PERSISTENCE:
Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28ffhOD >40%).
The 20-Day biochemical oxygen demand (BOD20) is 0.30 pip.
Theoretical oxygen demand (ThOD) is calculated to be 0.75 pip.

ECOTOXICOLOGY:
Material is slightly toxic to aquatic organisms on an acute basis (LC_{50} or EC" is between 10 and 100 *mglL* in most sensitive species).

113. DISPOSAL CONSIDERATIONS:

DISPOSAL METHOD: If wastes andlor containers cannot be disposed of according to the product label directions, disposal ot this material be in accordance with your local or area regulatory authorilles. 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 applicabie regionai, national and local laws and regulations.

***Trademark of Dow AgroSciences LLC**

15. REGULATORY INFORMATION:

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer'S responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations..

U.S. REGULATIONS

SARA 313 INFORMATION: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

CHEMICAL NAME	CAS NUMBER	CONCENTRATION
Triethyiamine	000121-44-8	3.0%

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title ill) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard
A delayed health hazard
A fire hazard

NJ3=New Jersey Workplace Hazardous Substance (present at greater than or equal to 1.0%).
PA1=Pennsyivania Hazardous Substance (present at > or = to 1.0%).
PA3=Pennsylvania Environmental Hazardous Substance (present at > or = to 1.0%).

OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined *by* the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

CATEGORY	RATING
Health	3
Flammability	2
Reactivify	O

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, or SUPERFUND): This product contains the following sUbstance(s) listed as "Hazardous Substances" under CERCLA which may require reporting of releases:

Chemical Name	**CAS Number**	**RQ**	% in **Product**
Triethylamine	000121-44-8	5000	3.0%

·Trademark of Dow AgroSciences LLC

MATERIAL SAFETY DATA SHEET

Emergency Phone: 800-992-5994
Dow AgroScie"ces LLC
Indianapolis, IN 46268

Dow AgroSciences

GARLON* 3A HERBICIDE

Effective Date: 17-Nov-06
Product Code: 38321
MSDS: 004422

RCRA Categorization Hazardous Code:
Triethylamine U404

116. OTHER INFORMATION:

MSDS STATUS: Revised Section: 2, 3,11,12,13,15
Reference: DR·0121·6064
Replaces MSDS dated: 11/24/03
Document Code: 003·101·004
Replaces Document Code: 003-101-003

The Intormation Herein Is Given In Good Faith, But No Warranty, Express or Implied, Is Made. Consult Dow AgroSciences for Further Information.

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Specimen

Dow

Garlon® 4

®Trademark

Active	
triclopyr: 3,5,6-trichloro-2-pyridinyloxyacetic acid, butoxyethyl ester	. 61.6%
Inert Ingredients	. 38.4%
Tolal	. tOO.O%

Contains petroleum distillates
Acid equivalent: triclopyr - 44.3% . 4 lb/gal

EPA Reg. No. 62719-40

Keep Out of Reach of Children

CAUTION PRECAUCION

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

Precautionary Statements

Hazards to Humans and Domestic Animals

Causes Moderate Eye Irritation. Harmful If Swallowed. Prolonged Or Frequently Repeated Skin Conlact May Cause Alfergic Reactions In Some Individuals

Avoid contact with eyes or clothing. Wash thoroughly with soap and water atler handling and before eating, drinking, chewing gum, or using tobacco.

Personal Protective Equipment (PPE)

WPS Applicators and other handlers who handle this pesticide for any use covered by the Worker Protection Standard (40 CFR Part 170) - for this product, forestry sites - must wear:

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

Non·WPS Uses: Applicators and other handlers who handle this pesticide for any use NOT covered by the Worker Protection Standard (40 CFR Part HO) for this product. non-forestry siles - must wear:

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

Follow manufaclUrer's instructions lor cleaning/maintaining PPE. If no such instructions lorwashables are given, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Controls

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the WPS (40 CFR 170.240(d}(4-6), the handler PPE requirements may be reduced or modified as specified in the WPS.

First Aid

It in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. *Remove* contact lenses, it present, after 'he first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
If swallowed: Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doclor. Do nol give any liquid to the person. Do not give anything by mouth to an unconscious person.•

Note to PhysIcian: This product may pose an aspiration pneumonia hazard. Contains petroleum distillates.

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

This pesticide is toxic to fish. Do not apply directly to water, or to areas where surface waler is present or 10 intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

This chemical properties and characteristics associated with Chemicals detected in groundwater. The use of this chemical areas where soils are permeable, particularly where water lable is shallow, may result in groundwater contamination.

Physical or Chemical Hazards

CombUSlible. Do not use or store the product near heat or open flame.

Notice: Read the entire label. Use only according to label directions. Before using this product, read Warranty Disclaimer. Inherent Risks of Use, and Limitation of Remedies elsewhere on this label. Il terms are unacceptable. return at once unopened.

In case of emergency endangering health or the environment Involving this prOduct, call1·aOO-992-5994. If you wish 10 obtain additional product information, visit our web site at www.dowagro.com.

Agricullural Chemical: Do not ship or store with food, feeds, drugs or clothing.

Directions for Use

It is a violation of Federal law 10 use this product in a manner inconsistent with its labeling.
Read all Directions for Use carefully before applying.

Do not apply this product in a way that will contact workers or olher persons, either direclly 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.

Agricultural Use Requirements

The requirements In this box apply to forestry uses.

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 01 agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notllication, and emergency assistance. Il also contains specific instructions and exceptions pertaining to t.he 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 12 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, or waler, is:

- Coveralls
- Chemical-resistant gloves
- Shoes plus socks
- Protective eyewear

Non-Agricultural Use Requirements

The requirements In this box apply 10 all use sites on this label except for forestry uses,

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.

Entry Restrictions for Non-WPS Uses: For applications to non-cropland areas, do not allow entry into areas until sprays have dried.

Storage and Disposal

Do not contaminate water, food, or feed by storage and disposal.
Open dumping is prohiblled.
Pesticide Storage: Store above or agitate before use.
Pesticide Disposal: Wastes resulting from the use of this product (that cannot be used according to label instructions) may be disposed of on site or at an approved waste disposal facilily.
Container Disposal: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landlill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

General Information

Use Garlon" 4 specialty herbicide for the control 01 woody planls and annual and perennial broadleaf weeds in non-crop areas, including industrial manufacturing and storage sites, rights-of-way such as electrical power lines, communication lines, pipelines, roadsides and railroads, fence rows, non-irrigation ditch banks; forests and in lhe establishment and maintenance of wildlife openings. Use on these sites may include applicafion to grazed areas.

General Use Precautions and Restrictions

In Arizona: The state of Arizona has not approved Garlon 4 for use On plants grown for commercial production; specifically forests grown for commercial timber production, or on designated grazing areas.

When applying this product in tank mix combination, lollow all applicable use direclions, precautions, and limitations on each manufacturer's label.

Chemlgation: Do nol apply this product through any type of irrigation system.

Do not apply Garlon 4 directly to, or otherwise permit it to come into direct contact With, grapes, tobacco, vegetable crops, flowers, or other desirable broadleaf plants. Do not permit spray mists containing Garlon 4 to drift onlo such plants.

Il is permissible to treat non-irrigation ditch banks, seasonally dry wetlands (such as flood plains, dellas, marshes, swamps, or bogs) and transitional areas between upland and lowland sites where surface water is not present except in isolated pockets due to uneven or unlevel conditions. Do not apply to open water (such as lakes, reservoirs, rivers, streams, creeks, salt water bays, or estuaries).

Do not apply on ditches currently being used 10 transport Irrigation waler. Do not apply where runoff or irrigation water may flow onto agriculluralland as injury to crops may resull.

OO not apply this product using mist blowers unless a drift control additive, high viscosity inverting system, or equivalent is used to control spray drift.

Sprays applied directly 10 Christmas trees may result in conifer injury. When treating unwanted vegetation in Christmas tree plantations, cafe should be taken 10 direct sprays away from conifers.

Garlon 4 is formulated as a low volatile ester. However, the combination of spray conlact with impervious surtaces, such as roads and rocks, and increasing ambient air temperatures, may result in an increase in the potential for this herbicide, increasing a risk for injury 10 sensilive crops such as grapes and tomatoes.

Apply no more than *1/2* gallon of Garron 4 (2 lb ae of triclopyr) per acre per growing season on range and pasture sites, including way, fence rows or any area whore grazing or harvesting is allowed. On lorestry siles, Garton 4 *may* be used at rates up to 6 quarts (6 tb ae of triclopyr) per acre per year.
Garlon 4 may be used at rates up to 8 quarts (8 lb ae of triclopyr) per acre par year on non-crop areas including industrial manufacturing and storage sites, rights-al-way such as electrical power tines, communication lines, pipelines, roadsides and railroads, fence rows, non-irrigation ditch banks.

Grazing and Haying Restrictions

Except lor lactating dairy animals, there are no grazing restriclions following application of this product.

Grazing lactating Dairy Animals: Do not allow lactating dairy animals to graze treated areas until the next growing season following application of this product.
Do not harvest hay for 14 days after application.
Grazed areas of non-cropland and forestry sites may be spot treated if they comprise no more than 10% of the total grazable area.

Slaughter Restrictions: During the season of application, withdraw livestock from graZing treated grass at least days before slaughter.

Avoiding Injurious Spray Drift

Make applications only when there is lillie or no hazard from spray drift. Small quantities 01 spray, which may not be visible, may seriously injure susceptible plants. Do not spray when wind is blowing toward susceptible crops or ornamental plants thai are near enough to be injured. It is suggested that a continuous smoke column at or near the spray site or a smoke generator on the spray equipment be used to detect air movement, lapse conditions, or temperature inversions (stable air). Iithe smoke layers or indicates a potential 01 hazardous spray drift, do not spray.

Aerial Appllcatfon (Hellcopler Only): For aerial application on rights-of-way or other areas near susceptible crops, apply through a Microfoil[1] or Thru-Valve boom', or use an agriculturally labeled drift control additive. Other drift reducing systems or thickened sprays prepared by using high viscosity inverting systems may be used if they are made as drift-free as mixtures containing agriculturally labeled thickening agents or applications made with the Microfoil or Thru Valve boom. Do nol use a thickening agent with the Microfoil or Thru Valve booms, or other systems that cannot accommodate thick sprays. Spray only when the wind velocity is low (follow state regulations). Avoid application during air inversions. If a spray thickening agent is used, follow all use recommendations and precautions on the product label.

[1] Reference within this label to a particular piece of equipment produced by or available form other parties is provided without consideration for use by the reader al its discretion and subject to the reader's independent circumstances, evaluation, and expertise. Such reference by Dow AgroSciences Is not intended as an endorsement of such equipment, shall not constitute a warranly (express or implied) of such equipment, and is not intended to imply that other equipment is not available and equally suitable. Any discussion of methods of use of such equipmenl does not imply that the reader should use the equipment other than is advised in directions available from the eqUipment's manufacturer. The reader is responsible for exercising its own judgment and expertise, or consulting wifh sources other than Dow AgroSciences, in selecting and determining how to use Its equipment.

Spray Drift Management

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

The following drift management must be followed to avoid off-target drill movement from aerial applications;

1. The distance of the outer most operating nozzles on Ihe boom must not exceed 3/4 the length of the rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringenl regulations, they should be observed.

The applicator should be familiar with and take into account the information covered the following Aerial Drift Reduclion Advisory. IThis 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 besl 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 drill if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

be

control additive, high viscosity invert syslem, or equivalent as directed by the manufacturer. Whon using a spray thickening or inverting additive, follow all use directions and precautions on the producllabel. With ground equipment, spray drift can be reduced by keeping the spray boom as low as possible; by applying 20 gallons or more 01 spray per acre; by keeping lhe oporating spray pressures althe lower end of the manufacturer's recommended pressures for the specific nozzle type used (low pressure nozzles are available from spray equipment manufacturers); and by spraying wind velocity is low. Do not apply with nozzles that produce a fine droplet spray. Select nozzles and pressures which provide adequate plant coverage, but minimize the produclion of line spray particles.

High Volume Leaf·Stem Treatment: To minimize spray drift, keep sprays no higher than brush tops and keep spray pressures low enough to provide coarse spray droplets. An agriculturally labeled thickening agent may be used to reduce drift.

Plants Controlled by Garlon 4

Woody Plant Species

alder	dogwood	poplar
arrowwood	Douglas-fir	salmonberry
ash	elderberry	salt-bush *(Braccharis* spp.)
aspen	elm	salt-cedar'
bear clover (bearmat)	gallberry	sassafras
beech	gorse	scotch broom
birch	hazel	sumac
blackberry	hickory	sweetbay magnolia
blackgum	hornbeam	sweetgum
boxelder'	kudzu[11]	sycamore
Brazilian peppar	locust	tanoak
bucklhorn	madrone	thimbleberry
cascara	maples	tree-of·heaven *(Ailanthus)'*
Ceanothus	mulberry	tulip poplar
Cherry	oaks	wax myrtle
chinquapin	persimmon	wild rose
choke charry	pine	willow
collonwood	poison ivy	winged elm
Crataegus (hawthorn)	poison oak	

'For best contrOl, use either a basal bark or cut stump treatment.
tlFor complete contrOl, re-treatment may be necessary.

the

if

wild violet

dandelion purple loosestrife yarrow

field bindweed

Application Methods

Use Garlon 4 at rates of 1 10 8 quarts per acre to conlrol broadleaf weeds and woody plants. II Is suggested that rales higher in this rale range be used to conlrol woody plants. In all cases, use the amount specified in enough waler to give uniform and complete coverage of the plants to be controlled. The order of addition to the spray tank is water, spray thickening agent {Il used).-surfactant used), additional herbicide (if used), and Garlen 4. If a standard agricultural surfactant is used, use at a rate of 1 to 2 quarts per acre. Use continuous adequate agitation.

Before using any recommended lank mixtures, read the directions and aU precautions on both labels.

For best results apply when woody plants and weeds are aclively growing. When hard to control species such as ash, blackgum, choke cherry, elm, maples (other than vine or big leaf), oaks, pines, or winged elm are prevalent, during applications made during late summer when the plants are mature, or during drought conditions, use the higher rates of Garlon 4 alone or in combination with Torden" 101 Mixture specially herbicide or Torden K herbicide. Tordon 101 Mixture and Tordon K are restricted use pesticides. Tordon 101 Mixture and Tordon K are not registered for use in the states of California and Florida.

When using Garlon 4 in combination with 2,4-0 low volatile ester herbicide, generally the higher rates of Garlon 4 should be used for salislactory brush control.

Use the higher dosage rates when brush approaches an average of 15 feet in height or when the brush covers more than 60% of the area to be treated. If lower rates are used on hard to control species, resprouting may occur the year following treatment.

On siles where easy to control brush species dominate, rates less than those listed may be effective. Consult state or local extension personnel for such information.

Foliage Treatment With Ground Equipment

High Volume Foliage Treatment

For control of woody plants, use Garlon 4 at the rate of 2 to 6 quarts per 100 gallons of spray mixture, or Gar/on 4 at2 to 4 quarts may be tank mixed with labeled rates 01 2,4-0 low volatile ester herbicide, Tordon 101 Mixture, or Tordon K and diluted to make 100 gallons of spray mixture. Do not apply more than 2 gallons of Garlon 4 per acre. Apply at a volumo of 100 10 400 gallons of total spray per acre depending upon size and density of woody plants. Coverage should be thorough to wet all leaves, stems, and root collars. Tordon 101 Mixture and Tardon K are not registered for use in the states of California and Florida. When tank mixing, follow applicable use directions and precautions on each manufacturer's label.

Table 1: The following table is provided as a guide to the user to achieve the proper rate 01 Garlon 4.

	Rate of Garfon 4	
Total Spray Volume (aallons/acre'	forestry Sites (qV100 gallons of spray)!	Non-Cropland Sites (qtl100 gallons of spray) 11
400	1.5	2
300	2	2.7
200	3	4
100	6	8
50	12	16
40	15	20
30	20	26.7
20	30	40
10	60	80

too not exceed the maximum use rale 016 qt of Garlon 4 (61b ae 01 triclopyr)/acreJyear.

11 Do not exceed the maximum use rate of 8 qt of Gar/on 4 (8 lb ae of triclopyr)/acre/year.

Low Volume Foliage Treatment

To control susceptible woody plants, mix up to 20 quarts of Garlon 4 in 10 to 100 gallons of finished spray. The spray concentralion of Garlon 4 and total spray volume per acre should be adjusted according to the size and density of target woody plants and kind of spray equipment used. With low volume sprays, use sulficient spray volume to obtain unilorm coverage of target plants including the surfaces of all siems, and root collars (see General Use Precautions and Restriclions). For best results, a surfactant should be added to all spray mixtures, Match equipment and delivery rate or spray 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 less than 1 01 spray per minute may be appropriate for short, low 10 moderate density brush.

in tank mix combination with labeled rales of Tardon K or Tarden 101 Mixture in 10 to *100* gallons of finished spray. Tardon 101 Mixture and Tarden K are not registered for use in the states of California and Florida.

Broadcast Applications With Ground Equipment

Apply using equipment thai will assure thorough and uniform coverage of the spray volumes applied. See Table 1 for relationship between mixing rate, spray volume and maximum application rale.

Woody Plant Control

Foliage Treatment: Use 4 to 8 quarts of Garlon 4 in enough waler to make 5 gallons or more of total spray per acre, or 1 1/2 to 3 quarts of Garlon 4 may be combined with labeled rales of 2,4-D low volatile ester, Tordon 101 Mixture, or Tardon K sufficient water to make 5 gallons or more of total spray per acre. Tordon 101 Mixture and Tordon K are not registered for use in the states of California and Florida.

Sroadleaf Weed Control

Use Garton 4 at rates of 1 to 4 quarts in a total volume of 5 gallons or more per acre as a water spray mixture. Apply anytime weeds are actively growing. Garlon 4 at 0.25 to 3 quarts may be tank mixed labeled rales of amine or low ester, Torden K, or Torden 101 Mixture to improve the spectrum of activity. For thickened (high viscosity) spray mixtures, Garlon 4 can be mixed with diesel oil or other Inverting agent. When using an inverting agent, read and follow the use directions and precautions on the product label, Tordon 101 Mixture and Tordon K are not registered lor use in the slates 01 California and Florida.

Aerial Application (Helicopter Only)

Aerial sprays should be applied using suitable drift control. (See General Use Precautions and Restrictions.)

Foliage Treatment (Utility and Pipeline Rights-a'-Way)

Use 4 to 8 quarts of Garlon 4 alone, or 3 to 4 quarts of Garlon 4 in a tank mix combination with labeled rates of 2,4-0 low volatile ester, Tordon 101 Mixture or Tordon K and apply in a total spray volume of 10 to 30 gallons per acre. Use the higher rates and volumes when plants are dense or under drought conditions. Tordon 101 Mixlure and Tordon K are not registered for use in the states of California and Florida.

Basal Bark and Dormant Brush Treatments

Mixing Directions

To control susceplible woody plants in rights-of-way other non-crop areas, and forests, use Garlon 4 in all or oil-water mixtures prepared and applied as described below. Prepare oil-based mixtures using either diesel fuel, NO.1 or No.2 fuel oil, kerosene or a commercially available basal all. SUbstitute other oils or diluents only as recommended by the oil or diluent's manufacturer. When preparing an oil mixture, read and follow the use directions and precaulions on the manufacturer's product labeL See Table 1 for relationship between mixing rate, spray volume and maximum application rate.

Note: All basal bark and dormant brush treatment methods may be used to treat susceptible woody species on range and permanent pasture land provided thai no more than 2 quarts of Garlon 4 are applied per acre. Large plants or species requiring higher rates of Garlon 4 may not be completely controlled.

011 Mixture Sprays

Add Garlon 4 10 the required amount of oil in the spray tank or mixing tank and mix thoroughly. If Ihe mixture stands over 4 hours, reagilation is required.

011 Mixtures of Garlan 4 and Tordon K: Tordon K and Garlon 4 may be used in tank mix combination for basal bark treatment of woody plants. These herbicides are incompatible and will not lorm a slable mixture when mixed together directly in oil. 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 ralio. (See product bulletin for mixing instructions.) Tordon K is nol registered for use in the slates of California and Florida.

Oil-Water Mixture Sprays

Prepare a premix of oil, surfactant and Garlon 4 in a separate container. Do not allow any water or mixtures containing water 10 get into the premix or Garlon 4 since a thick "invert" (water in oil) emulsion may form that will be dilficultto break, Such an emulsion may also be formed if the premix or Garlon 4 is put into the mixing tank before the addition 01 water. Fill the spray tank about one-half full with water, then slowly add the premix with continuous agitation and complete filling the tank with waler. Continue moderate agitation.

Basal Bark Treatment

To control susceptible woody plants With stems less than 6 inches in basal diameter, mix 1 105 gallons of Garlon 4 in enough oil to make 100 gallons of spray mixture. Apply with knapsack sprayer or power spraying equipment using low pressure (20 to 40 psi). Spray the basal parts of brush and Iree trunks to of 12 to 15 inches from the ground, thoroughly welling the indicated area. Spray runoff at the ground line is noticeable. Old or rough bark requires more spray than smooth young bark. Apply anytime, including winter months, except when snow or water prevent spraying to the ground line.

Low Volume Basal Bark Treatment

To control susceptible woody plants with stems less than 6 inches In basal diameter, mix 20 to 30 gallons of Garlon 4 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, Spray the basal parts of brush and tree trunks in a manner which thoroughly wets the lower stems, including the root collar area, but not to the point of runoff. Herbicide concentration should vary wilh size and susceptibility of species treated. Apply anytime, including the winter months, except when snow or water prevent spraying to the ground or when stem surfaces are saturated with water. See Table 1 for relationship between mixing rate, spray volume and maximum application rate. Nole: The addition of a soil active herbicide to a basal bark mixture Garlon 4 may result in damage to surrounding non-target vegetation. Care should be taken 10 assess the areas in which these soil active herbicides are used in combination with Garlon 4 in basal bark applications.

Gar/on 4 Plus Tordon K In 011 Tank Mix: Garron 4 and Tarden K may be used in tank mix combinatfon as a row volume basal bark treatment to improve control of cenain woody species such as ash, elm, maple, poplar, aspen, hackberry, oak, oceanspray, birch, hickory, pine, lancak, cherry, locust. sassafras, and multiflora rose. (See product bulletin lor mixing instructions.) Tardon K Is not registered for use in the stales 01 California and Florida.

Streamline Basal Bark Treatment (Southern States)

To control or suppress susceptible woody plants for conifer release, mix 20 to 30 gallons of Garron 4 in enough oil to make 100 gallons of spray mixture. Apply with a backpack or knapsack sprayer using equipment which provides a directed straight stream spray. Apply sufficient spray to one side of stems less than 3 inches basal diameter to form a treated zone thai is 6 inches in helghl. When the optimum amount of mixture is applied, the trealed zone should widen to encircle the stem within approximately 30 minutes. Treat both sides of stems which are 3 to 4 incheS in basal diameter. Direct the spray at bark that is approximately 12 to 24 inches above ground. Pines (loblolly, slash, shortleaf, and Virginia) up to 2 inches in diameter breast height (dbh) can be controlled by directing the spray at a point approximately 4 feet above ground. Vary spray mixture concentration with size and susceptibility 01 the species being treated, Best results are achieved when applications are made to young vigorously growing stems which have not developed the thicker bark characteristic of slower growing, understory trees in oldor stands. This technique is not recommended for scrub and live oak species, including blackjack, turkey, live, bluejack and laurel oaks, or bigleaf maple. Apply from approximately 6 weeks prior to hardwood leaf expansion in the spring approximately 2 months after leaf expansion is completed. Do not apply when snow or water prevent spraying at the desired height above ground level.

Low Volume Stem Bark Band Treatment (North Central and lake States)

To control susceptible woody plants with stems less than 6 inches basal diameter, mix 20 to 30 gallons of Garlon 4 in enough oit to make 100 gallons of spray mixture. Apply with a backpack or knapsack sprayer using low pressure and a solid cone or fan nozzle. Apply the spray in a 6- to lO-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 of speci.es 10 be treated. Applications may be made anylime, including winter months.

Thinline Basal Bark Treatment

To control susceptible woody plants with stems less than 6 inches in diameter, apply Garlon 4, undiluted or mixed at 50 to 75% *v/v* with oil, in a thin stream to all sides of the lower stems. The stream should be directed .horizontally to apply a narrow band of Garlon 4 around each stem or clump. Use a minimum of 2 to 15 *at* Garlon 4 or oil mixture with Garlon 4 to treat single stems and from 25 10 100 milliliters to treat clumps of stems. Use an applicator metered or calibrated to deliver the small amounts required.

Dormant Stem Treatment

Dormant stem treatments control susceptible woody plants and vines with stems less than 2 inches in diameter. Plants with stems greater than 2 inches in diameter may not be controlled and resprouling *may* occur. This treatment method is besl suited for sites with dense, smaH diameter brush. Dormant stem treatments of Garlon 4 can also be used as a chemical side-trim for controlling lateral branches of larger trees that encroach onto roadside, utility, or other rights-of-way.

Mix 4 to 8 quarts of Garlon 4 in 2 to 3 gallons of crop oil concentrate or other recommended oil and add this mixture in enough water to make 100 gallons of spray Use continuous adequate agitation. Apply with Radiarc, OC or equivalent nOZZles, or handgun using 70 to 100 gallons of spray per acre to ensure unilorm coverage of stems. Garlon 4 may be mixed with 4 quarts of Weedone 170 herbicide to improve the control of black cherry and broaden the spectrum 01 herbicidal activity. In western states, apply anytime after waody plants are dormant. In other areas apply anytime within 10 weeks of bUdbreak, generally February through April. Do not apply to wet or saturated bark. as poor control may result.

Cut Slump Treatment

To control resprouting, mix 20 to 30 gallons of Garlan 4 in enough oil to make toO gallons of spray mixture. Apply with a backpack or knapsack sprayer using low pressures and a solid cone or flat fan nozzle. Spray the rool collar area, sides 01 Ihe stump, and the outer portion of the cut surface, including the cambium, until thoroughly wet, but not to the point of runoff. Spray mixture concentration should vary with the size and susceptibility of species treated. Apply anytime, including in winter months, except when snow or water prevent spraying to the ground line.

Cut Stump Treatment in Western States

To control resprouting of salt cedar and other *Tamarix* species, bigleaf maple, tanoak, Oregon myrtle, other susceptible species, apply undiluted Garlon 4 to wet the cambium and adjacent wood around the entire circumterence of the cut stump. Treatments may be applied throughout the year; however, control may be reduced with treatment during periods of moisture stress as in late summer. Use an applicator which can be calibrated to deliver the small amounts of material required.

Forest Management Applications

For broadcast applications, apply 1 to 6 quarts of Garlan 4 per acre in a total spray volume of 5 to 25 gallons per acre by air or 10 to 100 gallons per acre by ground. Use spray volumes sufficient to provide thorough coverage of treated foliage. Nozzles or additives that produce larger droplets of spray may require higher spray volumes to provide adequate coverage.

grass control is also desired, Garlon 4 alone or in tank mix combination with Tarden K or Tordon 101 Mixture may be applied with labeled rates of other herbicides registered for grass control in forests. Use 01 tank mix products must be in accordance with the most restrictive of labellimitalions and precautions. Do not exceed labeled application rates. Garton 4 cannot be tank mixed with any product containing a label prohibition against such mixing.

Western, Northeastern, North Central, and Lake Slates (Slates nol L1sled Above as Southern Slates): To control susceptible woody plants and broadleaf weeds, apply Garlon 4 at a rate of 3 to 6 quarts *per* acre. To broaden the speclrum 01 woody plants and broadleaf weeds controlled, apply 1.5 to 3 quarts of Garlon 4 per acre in lank mix combination with -labeled rates of Tordon 101 Mixture, Tordon K, or 2,4-0 low volatile ester. Tardon 101 Mixture and Tordon K are not registered for use in the state of California. Where grass control is also desired, Garlon 4 alone or in tank mix combination with Tordon 101 Mixture or Tordon K may be applied with labeled rates of other herbicides registered for grass control in forests. When applying tank mixes, follow applicable use direclions and precautions on each product label.

Southern Coastal Flatwoods: To control susceptible broadleal weeds and woody species such as gallberry and wax-myrtle, and for partial control of saw·palmello, 2 10 4 quarts of Garlon 4 per acre. To broaden the spectrum of species controlled to include feUerbush, staggerbush, tili, and grasses, apply 2 to 3 quarts of Garlon 4 per acre in tank mix combination with labeled rates of Arsenal Applicator's Concentrate herbicide. Where control of gallberry, wax-myrtle, broadleaf weeds, and grasses Is desired, apply 2 to 3 quarts of Garlon 4 per acre in tank mix combination with labeled rates 01 Accord Concentrate or Accord SP herbicide.

These treatments may be broadcast during site preparation of flat planted or bedded sites or, on bedded sites, applied in bands over the top of beds. For best results, apply in late summer or fall. Efficacy *may* not be satisfactory when applications are made In early season prior to August. Note: Do not apply after planting pines.

Note: Conifers planted sooner than 1 month after treatment Garlon 4 at less than 4 quarts per acre or sooner than 2 months aller treatment at 4 to 6 quarts per acre *may* be injured. When tank mixtures of herbicides are used for lorest site preparation, labels for all products in the mixture should be consulted and the longest recommended waiting period before planting observed.

Directed Spray Applications for Conifer Release

To release conifers from competing hardwoods and brush such as red maple, sugar maple, striped maple, sweetgum, red and white oaks, ash, hickory, alder, birch, aspen, pin cherry, *Coanolhus* spp., blackberry, chinquapin, and poison oak, mix 4 to 20 quarts of Garton 4 in enough water to make 100 gallons of spray mixture. This spray mixture should be directed onto foliage of competitive hardwoods using knapsack or backpack sprayers with flal fan nozzles or equivalent any time aller the hardwoods and brush have reached luIllaaf size, but before autumn coloration. The majority of treated hardwoods and brush should be less than 6 feet in height to ensure adequate spray covorage. Care should be taken to direct spray *away* from contact with conifer foliage, particularly foliage of desirable pines. See Table 1 for relationship between mixing rate, spray volume and maximum application rate.

Note: Spray *may* cause temporary damage and growth suppression where contact with conifers occurs; however, injured conifers should recover and grow normally. Over-the-top spray applications can pines.

Broadcast Applications for Mid·Rotatlon Understory Brush Control In Southern Coastal Flatwoods Pine Stands (Ground Equipment Only)

For control of susceptible species such as gallberry and wax-myrtle and broadleat weeds, apply 2 to 4 quarts of Garlon 4 per aero. To broaden the spectrum of woody plants controlled to include fetlerbush, staggerbush, and apply 2 to 3 quarts of Garlon 4 per acre in lank mix combination with labeled rates of Arsenal Applicator's Concentrate. Saw-palmetto will be partially controlled by use of Garlon 4 at 4 quarts per acre or by mixtures of Garlon 4 at 2 to 3 quarts per acre in tank mix combination with either Arsenal Applicator's Concentrate or Escort herbicide. These mixtures should be broadcast applied over larget understory brush species, but to prevent injury to pines, make applications underneath the foliage of pines. Apply sprays In 30 gallons or more per acre of volume. For besl results, apply In late summer or fall. Efficacy *may* not be satisfactory when applications are made in early season prior to August.

Broadcast Applications for Conifer Release in the Pacific Northwest and California

Dormant Conifers Before Bud Swell (ExclUding Pines): To control or suppress deciduous hardwoods such as vine maple, bigleaf maple, alder, scotch broom, or willow before leaf-out, or evergreen hardwoods such as madrone, chinquapin, and *Ceanothus* spp., use Garlon 4 at 1 to 2 quarts per acre. Use diesel or fuel oil as a diluent, or use water plus 1 to 2 gallons per acre 01 diesel oil or a suitable surfactant or oil substitute at manufacturer's recommended rates.

Conifer Plantations (Excluding Pines) After Hardwoods Begin Growth and Before Conifer Bud Break ("Early Foliar" Hardwood Slage): Use Garlon 4 at 1 to 1.5 quarts alone or with 2,4-0 low ester herbicide in water carrier to provide no more than 3 lb ae per acre from both products. Aller conifer bud break, these sprays *may* cause more serious to the crop trees. Use of a surfactant *may* cause unacceptable injw:y to conifers especially bud break.

both products.

Treat as soon atler conifer bud hardening as possible so thai hardwoods and brush are actively growing, Use of oil, oil substitute, or surfactant may cause unacceptable injury to the conifers.

Broadcast Appllcalions for Conifer Release In the Eastern United States

To release spruce, lir, red pine. and white pine from compellng hardwoods such as red maple, sugar maple, striped maple, alder, birch (while, yellow, and grey), aspen, ash. pin cherry, and *Rubus* spp. and perennial and annual broadleal weeds, use Garlon 4 at rates of 1.5 to 3 quarts per acre alone or with 2,4-0 amine or low volatile ester to provide no more than 4 lb ae per acre from bOth products. Apply In late summer or early fall after conifers have formed their overwintering buds and hardwoods are in full leaf and prior to aulumn coloration.

Broadcast Applications for Conifer Release in the Lake States Region

To release spruce, fir, and red pine from competing hardwoods such as aspen, birch, maple, cherry, oak, hazel, and *Rubus* spp. and perennial and annual broadleaf weeds, usc Garlon 4 at rales of 1.5 to 3 quarts acre. Apply in late summer or early fall after conifers have formed overwintering buds and hardwoods are in full leaf and prior to autumn coloration.

Terms and Conditions 01 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 lor a fuil refund of purchase price paid. Otherwise, use by the buyer or any other user conslitutcs acceptance 01 the terms under Warranty Disclaimer, Inherent Risks of Use and Limitation at Remedies.

warranty Disclaimer

Dow AgroSciences warrants that this product conforms to the chemical description on the Jabel 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. Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks 01 Use

It is impossible to eliminate risks associated wilh use of this product. Plant 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 1he label, such as unfavorable temperature, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tomadoes, hurricanes), presence 01 other materials, the manner 01 application, or other factors, all of which are beyond the control of Dow AgroSclences or the seller. All such risks shall be assumed by buyer.

Limitation 01 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 Dow AgroSclences' 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.

Dow AgroSclences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. In no case shall Dow AgroSclences be liable lor 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 Dow AgroSciences or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

of Dow AgroSciences LLC
Dow AgroSciences LLC • Indianapolis. IN 46268 USA

Label Code: 002-102-025
Replaces: 002-102-024
Loes Number: 010-00085

EPA-Accepted 01/12/06

Revisions:

1. Revised grazing and haying restrictions.
2. Added spray drift management guidance.

MATERIAL SAFETY DATA SHEET

Dow AgroSciences

Emergency Phone: 800-992-5994
Dow AgroSciences LLC
Indianapolis, IN 46268

Effective Date: 19-Jun-07
Product Code: 36138
MSDS: 004788

FORESTRY GARLON* 4 HERBICIDE

11. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Forestry Garlon' 4 Herbicide

13 COMPOSITION/INFORMATION ON INGREDIENTS:

COMPONENT	CAS NUMBER	W/W%
Triclopyr Butoxy Ethyl Ester	064700-56-7	61.6
Kerosene	008008-20-6	31.0
Balance		7.4

14. FIRST AID:

EYES: Flush eyes thoroughly with water for -se-v-e-ra-I---minutes. Remove contact lenses after initial 1-2 minutes and continue flushing for several minutes. If affects occur, consult a physician, preferabiy an ophthalmologist.

SKIN: Wash skin with plenty of water.

INGESTION: Do not induce vomiting. Cali a physician andlor transport to emergency facility immediately.

INHALATION: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, oxygen should be administered by quaiified personnel. Cali a physician or transport to a medical facility.

NOTE TO PHYSICIAN: The decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

115. FIRE FIGHTING MEASURES:

FIRE & EXPLOSION HAZARDS: Combustible. Toxic. irritating vapors may be produced if product is involved in fire.

FIRE-FIGHTING EQUIPMENT: Use positive pressure self-contained breathing apparatus and fuli protective ciothing.

16. ACCIDENTAL RELEASE MEASURES:

ACTION TO TAKE FOR SPILLS/LEAKS: Keep out of streams and domestic water supplies. Absorb smali spills in inert material such as sand. For large spilis, dike the area and contact Dow AgroScienQes at 800-992-5994.

17. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep out of reach of children. Do not use near heat or open flame. Harmful if swaliowed, inhaled, or absorbed through skin. Avoid contact with eyes, skin and clothing. Avoid breathing mists and vapors. Avoid contamination of food. Store above 28°F or agitate before use. Users shouid wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. For handling relative to end-use of this product, read the product label for further information concerning the use of personal protective equipment (PPE) under the Worker Protection Standard of 1993. Store in the original container.

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Triclopyr:

AND PACKAGING

WORKERS:

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guidelines. When respiratory protection is required for certain operations, use a NIOSH approved air-purifying respirator.

SKIN PROTECTION: Use protective clothing chemically resistant to this material. Selection of specific items such as faceshield, gloves, boots, apron, or full body suit will depend on operation. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly.

EYE/FACE PROTECTION: Use safety glasses.

APPLICATORS AND ALL OTHER HANDLERS: Refer to the product label for personal protective clothing and equipment.

119. PHYSICAL AND CHEMiCAL PROPERTIES

BOiliNG POINT: >302°F (150C) initial
VAPOR PRESSURE: 0.1 mm @ 37.8C (kerosene)
VAPOR DENSITY: >1
SOLUBiliTY IN WATER: Emulsifies
SPECIFIC GRAVITY: 1.08
APPEARANCE: Amber liqUid
ODOR: Kerosene-like

110. STABiliTY AND REACTIVITY:

STABILITY: (CONDITIONS TO AVOID) Combustible. Avoid sources of ignition if temperature is near or above flash point. Stable under normal storage conditions.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Acid, base, and oxidizing material.

HAZARDOUS DECOMPOSITION PRODUCTS: Nitrogen oxides, hydrogen chloride, and phosgene may result under fire conditions.

HAZARDOUS POLYMERIZATION: Not known to occur.

111. TOXICOLOGICAL INF6RMATION:

POTENTIAL HEALTH EFFECTS: This section includes possibie adverse effects, which could occur il this material is not handled in the recommended manner.

EYE: May cause slight temporary eye irritation. Corneal injury is unlikeiy.

SKIN: Prolonged or repeated contact may cause skin irritation. Prolonged or frequently repeated skin contact may cause allergic skin reactions in some individuals. With the dilute mix, no allergic skin reaction is expected. Prolonged skin contact is unlikeiy to result in absorption of harmful amounts. Repeated skin contact may result in absorption 01 harmful amounts. The LD_{50} for skin absorption is >2000 *mg/kg* (rabbits) and >5000 *mg/kg* (rats).

or vomltmg, causing lung damage or even death due to chemical pneumonia.

INHALATION: Excessive exposure may cause irritation to upper respiratory tract (nose and throat). Kerosene may cause central nervous system effects.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: Triclopyr BEE, in animals, effects have been reported on the following organs: blood, kidney, and liver.

CANCER INFORMATION: Triclopyr BEE did not cause cancer in laboratory animals. In a litetime animal dermal carcinogenicity study, an increased incidence of skin tumors was observed when kerosene was applied at doses that also produced skin irritation. This response was similar to that produced in skin by other types of chronic chemical/physical irritation. No increase in tumors was observed when non-irritating dilutions of kerosene were applied at equivalent doses, indicating that kerosene is unlikeiy to cause skin cancer in the absence of long-term continued skin irritation. In long-term animal studies with ethylene glycol butyl ether, small bul statistically significant increases in tumors were observed in mice but not rats. The effects are not believed to be relevant to humans. If the material is handled in accordance with proper industrial handling, exposures should not pose a carcinogenic risk to **man.**

TERATOLOGY (BIRTH DEFECTS): For triclopyr BEE, birth defects are unlikely. Exposures having no effect on the mother shouid have no effect on the fetus. Did not cause birth defects in animals; other effects were seen in the fetus only at doses which caused toxic elfects to the mother.

REPRODUCTIVE EFFECTS: Triclopyr BEE, in laboratory animal studies, elfects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

12. ECOLOGICAL INFORMATION:

ENVIRONMENTAL FATE:

MOVEMENT & PARTITIONING:
Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).
Measured log octanol/water partition coefficient (Log Pow) is 4.09.
Log air/water partition coelficient (Log Kaw) is -4.0.

DEGRADATION & PERSISTENCE:
Biodegradation under aerobic static laboratory conditions is moderate (BOD20 or BOD28IThOD between 10 and 40%).

ECOTOXICOLOGY:
Material is highly toxic to aquatic organisms on an acute basis ($LC_5$01EC_{50} is between 0.1 and 1 *mgIL* in most sensitive species).

113. DISPOSAL CONSIDERATtONS:

DISPOSAL METHOD: If wastes and/or containers cannol 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 it 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 disposai methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws and regulations.

MATERIAL SAFETY DATA SHEET

Dow AgroSciences

Emergency Phone: 800·992·5994
Dow AgroSciences LLC
Indianapolis, IN 46268

FORESTRY GARLON* 4 HERBICIDE

Effective Date: 19-Jun-07
Product Code: 36138
MSDS: 004788

114. TRANSPORT INFORMATION:

U.S. DEPARTMENT OF TRANSPORTATION INFORMATION

FOR ALL NON-BULK PACKAGES SHIPPED BY AIR, LAND OR WATER:
This material is not regulated for transport.

FOR BULK PACKAGES SHIPPED BY LAND:
COMBUSTIBLE LIQUID, N.O.S. (CONTAINS KEROSENE)/COMBUSTIBLE L1QUID/NA1993/PGIII

15. REGULATORY INFORMATION:

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations.

U.S. REGULATIONS

SARA 313 INFORMATION: To the best of our knowledge, this product contains no chem ical subject to SARA Title III Section 313 supplier notification requirements.

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the lollowing categories:

An immediate health hazard
A delayed health hazard
A fire hazard

TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

1STATE RIGHT·TO·KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of flhe MSDS.

CHEMICAL NAME	CAS NUMBER	LIST
Kerosene	008008-20-6	PAI NJ3

NJ3=New Jersey Workplace Hazardous Substance (present at greater than or equal to 1.0%).
PA1=Pennsylvania Hazardous Substance (present at
1 greater than or equal to 1.0%).

OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

Heallh	2
Flammability	2
Reactivity	1

COMPREHENSfVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, or SUPERFUND): To the best of our knowledge, this product contains no chemical subject to reporting under CERCLA.

116. OTHER INFORMATION:

MSDS STATUS: Revised Sections: 8
Reference: DR-0196-5102
Replaces MSDS dated: 11-0ct-06
Document Code: D03-100-005
Replaces Document Code: D03·100-004

The Informafion Herein Is Given In Good Faith, But No Warranty, Express or implied, is Made. Consult Dow AgroSciences for Further Information.

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Specimen

Dow

™Trademark

	..	59.4%
Tolal..	..	100.0%

Acid Equivalent: aminopyralid acid) 21.1% 21b/gal

EPA Reg. No.

Container Use Direc1ions

1 Tip

10 angle as shown fill head to - use vertical scale for should be closed.

2 · Level

·Hold accuracy. Add as needed. pour-back scale as guide.

3 · Dispense

Remove cap on pour into sprayer or other devices. No fluid will pour from 1118 Replace cap for storage in sealed

Keep Out of Reach of Children

CAUTION

Precautionary Statements
Hazard to Humans and Domestic Animals

Causes Moderate Eye Irrllatlon

Avoid contact with eyes or clothing.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:
Long-Sleeved shirt and long panls
Shoes plus socks

Fallow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations

Users should:
Wash hands before ealing. drinking, chewing gum, using tobacco or using toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thorouahlv and put on clean clOlhlng. .

First Aid

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

Have the product conlainer or label with you when calling a poison control center or doctor or going treatment. You may also conlact for emerQencv medical treatment informalion.

EnVironmental Hazards

Do not apply direclly to water, to areas where surface water is present or 10 intertidal areas below the mean high water mark. *Do* not contaminate water when disposing of equipment washwater or rinsate.

Nollce: Read the entire label. Use only according to label direclions. Before using this product, read Warranty Ofsclaimer, Inherent Risks of Use, and LImitation of Remedies elsewhere on this label. If terms are unacceptable, return at once unopened.

In case 01 emergency endangering health or the environment involving this prodUCt, call 1-800-992-5994. It you wish to obtain additional product information, visit our web sile at www.dowagro.com.

Agricunural Chemical: Do not ship or store with food. feeds, drugs or clothing.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent its labeling.
Read all Directions for Use carefully before applying.

the aroa during application. For any requirements to your State or Tribe, consull the agency responsible for pesticide regulation.

Agricultural Use Requirements

Use this product only in accordance with its labeling with the Worker Proteclion Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural on farms, forests, nurseries, and greenhouses, and handlers of agricullural pesticides. Il contains requirements for training, decontamination, notification, and emergency assistance. Il 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.

00 not enter or allow worker entry into treated areas during Ihe restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permilled under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water,

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

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

Storage and Disposal

Do not contaminate water, food, feed or by storage or disposaL Open dumping is prohibited.

Pesticide Storage: If this product is exposed to SUbfreezing temperatures, the active ingredient may and settle out of solution. Under these conditions the product should be warmed to at least and agitaled welt to dissolve any crystallized active ingredient prior 10 use.

Pesticide Disposal: Wastes resutting from the use of this product may be disposed of on site or at an approved wasle disposallacilify,

Conlalner Disposal (Metal): Do not reuse container. Triple rinse (or equivalent). Puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Container Disposal (Plastic): Do not reuse container. Triple rinse (or equivalent). Puncture and dispose 01 in a sanitary landfill, or by incineration, or, if allowed by stale and local authorities, by burning. If burned, stay oul of smoke.

General: Consult federal, state or local disposal authorities for approved alternative orocedures.

Resistance Management Guidelines

- Development 01 plant populations resistant to this herbicide mode of action is usually nol a problem on rangeland, permanent grass pastures, Reserve Program (CRP), or non-cropland sites since these sites receive infrequent pesticide applications,
- Similar looking blotypes of a given weed species occurring in a treated area may vary in their susceptibility to a herbicide.
- Application of a herbicide below Its recommended rale may allow more tolerant weeds to survive and a shift to more tolerant biotypes within the trealed 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 Dow AgroSciences representative for the latest resistance management information.

Rangeland, Permanent Grass Pastures and Non-Cropland Areas

Mileslone™ specialty herbicide conlrols susceptible broadleaf woeds, Including invasive and noxious weeds on rangeland, permanent grass paslures, CRP acres, non-cropland areas (such as roadsides), non-irrigation ditch banks, natural areas (such as wildlife management areas, wildlife openings, habitats, recreation areas, campgrounds, trailheads and trails), and grazed areas in and around these sites without injury to most grasses.

It is permissible to treat non-Irrigation ditch banks, seasonally dry wetlands (such as llood plains, deltas, marshes, swamps, or bogs) and areas between upland and lowland sites.

Use Precautions and Restrictions

- Avoiding Injury to Non·Target Plants: Do not aerially apply Milestone within 50 feet of a bbrder downwind (in the direction of wind movement), or spray drift 10 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. Follow Precautions Ior Avoiding Spray Orin and Spray Drift Advisory under General Mixing and Application Instructions to minimize the potential for spray drift.
- Milestone is highly active against broadleaf plants. Do not use this product on areas where loss 01 broadJeat planIs, including legumes, cannot be tolerated,
- 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 01 irrigation ditches, either dry or containing waler, or other channels that carry water that may be used for irrigation or domestic purposes.
- Crop Rotation: Do not rotale to any crop from rangeland, permanent pasture or CRP acres wlthin one year following trealment. Do nat plant a braadleaf crop until an adequately sensitive field bioassay shows thai the level of aminopyralid present in the soil not adversely affecIlhat broadleaf crop.

soil

field bioassay is conducted to determine that the aminopyralid concentration in the soil is at level Ihat is nol injurious to the crop to be planted.

To promote herbicide decomposilion, plant residues should evenly incorporated in the surface or burned. Breakdown of aminopyralid in plant residues or manure is more rapid under warm, moist soil and may be enhanced by supplementallrrigalion.

- Grazing and Haying Restrictions: There are no restrictions on grazing or hay harvest following application of Milestone at labeled rates. Do not transfer grazing animals from areas treated with Milestono 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.
- MaxImum Application Rate: On rangeland, permanent grass pastures, CRP acres. and non-cropland areas, do not apply more than 7 II oz (0.11 lb acid equivalent) per acre of Milestone per year. The total amount of Milestone applied broadcast, as are-treatment, *andlor* spot treatment per year, cannot exceed 7 11 oz per acre.

Application Methods

(Broadcast Equipment)

Ground Broadcast Application: Apply the recommended rate of Milestone as a coarse low-pressure spray. Spray volume should be sufllcient to uniformly cover foliage. Increase spray volume to ensure thorough and uniform coverage when larget vegelation is tall andlor dense. Higher volumes (greater than 10 gallons por acre) provide better coverage and beUer control, particularly in dense and/or tail foliage canopies situations. To enhance foliage wetting and coverage, an approved non-ionic agricultural surfactant may be added to Ihe spray mixture as recommended by the surfactant manufacturer.

Do nol 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.

Aerial Broadcast Application: Apply the recommended rate of Milestone as a coarse low-pressure spray. Spray volume should be sufficient to uniformly cover foliage. Increase spray volume to ensure thorough and uniform coverage when target vegelation Is tall and/or dense. Spray volumes greater than 2 gallons per acre generally provide better coverage and better control, particularly when the foliage canopy is dense andlor tall. To enhance foliage welling and coverage, an approved non-ionic agricultural surfactant may be added 10 the spray mixture as recommended by the surfactant manufacturer.

(Hand·Held Equipment)

High-Volume Foliar Applicallon: High volume foliar treatments may be applied at rates eqUivalent to broadcast up to a maximum 01 7 II oz per acre per annual growing season. Use sufficient spray volume to thoroughly and uniformly wet foliage and stems. To ensure thorough of high volume treatments, a high quality non-ionic agricultural surfactant may be added to the spray mixture as recommended by the surfactant manufacturer. Repeat may be made, but the total amount of Milestone applied must not exceed 7 II oz per acre per year.

Spot Application: Spol treatments may be applied at rates equivalent to broadcast-applied rate of up to a maximum of 7 11 oz per acre per annual growing season. Spray volume should be sufficient 10 thoroughly and uniformly wet weed foliage. Use of a high non-ionic agricultural surfactant may be added to the spray mixture as recommended by the surfactant manufacturer. Repeat treatments may be made, but the total amount 01 Milestone applied must not exceed 7 II oz per acre per year. To prevent misapplication, spot treatments should be applied with a calibrated boom, boomless spray system, hand-held, or backpack sprayers.

Spot treatments may be applied at an eqUivalent broadcast rate of up to 0.22 lb active ingredient (14 II oz 01 Milestone) per acre per annual growing season; however, not more than 50% of an acre may be treated. Do not apply more than a total of 0,11 lb active ingredient (7 II oz per acre of Milestone) per annual growing season as a result of broadcast, spot or repeat applications.

ft

oz)

= 29.6 milliliters (ml) = 2 tablespoons = 6 teaspoons

To calculate the amount of Milestone for areas larger than 1000 sq It: Multiply the table value (II oz or by the area 10 be treated in "thousands" of square feet. For example, illhe area to be treated is 3500 sq ft, multiply 1he table value by 3.5 (3500 sq It divided by 1000 sq ft = 3.5).

Broadlea! Weed Control

Rangeland, Permanent Grass Pastures and CRP Acres

Milestone may be applied to rangeland, permanent pasture or CAP acres seeded to permanent grasses as an aerial or ground broadcast treatment, as a spot application, or as a high volume foliar application (see Application Methods section) to control susceptible broadleaf weeds, Including invasive and noxious weeds (see Broadleaf Weeds Controlled section). Milestone may be applied alone or in tank mix with labeled rates of other herbicides provided: (1) the tank mix product is labeled lor the liming 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. When tank mixing, use only in accordance with the most restrictive precautions and limitations on the rospective product labels. Follow Mixing Instructions under the General Mixing and Application Instructions section.

Do not use Milestone If loss of legumes species or other broadleaf species cannot be tolerated.

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 bromegrass *(Bromus inermis),* especially when planls are slressed by adverse environmental conditions. Plants should recover from this transient suppression with the onset of environmental conditions favorable 10 grass growth and upon release from weed competition.

Non-Cropland Areas

Mileslone may be applied to non-cropland areas as an aerial or ground broadcast treatment, as a spot applicalion, or as a high volume foliar application (see Application Methods section). 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 ls not prohibiled by the label of the registlered tank mixed products. When tank mixing, use only in accordance wilh the most restrictive precautions and limilations on the respective product labels. Follow Mixing Instructions under the General Mixing and Application Instructions section.

Milestone, alone or in tank mix combination, is recommended for control of susceptible broadleaf weeds, inclUding invasive and noxious weeds (see Broadleaf Weeds Controlled section) on non-cropland areas (such as roadsides), non-irrigation dilch banks, natural areas (such as wildlife management areas, wildlife openings, wildlife habitats, recreation aroas, campgrounds, trailheads and and grazed areas in and around these sites and where Ihese non-cropland sites cross rangeland and pastures or othor grazed areas.

Broadlea! Weed Management Practices

Milestone may be applied postemergence as a broadcast spray or as a spot application to control broadleaf weeds including, but nol limiled to, those listed on this label. Postemergence applications should be made before bud stage or early flowering, unless otherwise specified. When a rate range is given, use a higher rate in the range to control weeds at advanced growth stages or under less than favorable growing condilions (e.g., drought stress). Best weed control results are obtained when spray volume is sufficient to provide uniform coverage of treated plants. *For* optimum uptake and translocation of the herbicide, avoid mowing, haying, shredding, burning or soil disturbance in treated areas for at least 7 days following application.

Milestone also provides preemergence control of germinating seeds or emerging seedlings of susceptible broadleal weeds following application. Preventing establishment of susceptible weeds will depend upon application rate, season of application, and grOWing condition effects after application on weed seed germination and seedling emergence.

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 broadleaf weed control is most effective where grass vegetation is allowed to recover from overgraZing, drought, etc., and compete with broadleaf weeds.

Mileslone 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, fertilization, prescribed fire, elc., be used in appropriale sequences and combinations to further alleviate the adverse effects 01 weeds on desirable plant species and to promote development of desired plant communities. Agricultural and natural resources specialists wilh federal and state government agencies can provide guidance on best management practices and development of integrated vegetation management programs.

will

hawkweed, oranae (2)*, **	*Hieracium Burantiacum*	4106	perennial	Asteracoae
haWkweed, vellow (2)*, "	*Hieracium caespitosum*	4106	perennial	Asleraceae
henbil'	*Lamium amnlexicaufe*	4to 6	annual/biennial	Lamiaceae
horsenetlle, Carolina"	*Solanum carolinense*	4to 7	perennial	Solanaceae
horseweed	*Convza canadensis*	4 to 6	annual	Asleraceae
ironweed, tall	*Vernonia oioantea*	5 to 7	oerennial	Asteraceae
ironweed, western	*Vernonia baldwinil*	7	oerennial	Asteraceae
knaoweed, diffuse (3 " "	*Centaurea*	5 to 7	biennial/perennial	Asteraceae
knaoweed, Russian 4)',''	*AcroDtilon reDens*	4106	oerennial	Asteraceae
knaoweed, sootted 3 " "	*Centaurea stoebe*	5 t07	bienniaVoerennial	Asteraceae
kudzu', .,	*Pueraria montana*	7	oerennial	Fabaceae
ladv's thumb'	*Polvaonum Dersicaria*	3 to 5	annual	Polv.gonaceae
lambsauarters	*ChenoDodium afbum*	5 to 7	annual	ChenoDodiaceae
marshelder, annual	*Iva annua*	7	annual	Asteraceac
mavweed, scentless'	*TriDleurosDermum Derforata*	4 to 6	annual	Asteraceae
mavweed, stinkino', .,	*Anthem;s cotula*	7	annual	AsteraCeae
medic, bIack'	*Medicaao fUDulina*	4 to 6	perennial	Fabaceae
raaweed, common**	*Ambrosia artemisiifolia*	3to 5	annual	Asteraceae
raaweed, weslern	*Ambrosia Dsilostachva*	4 to 7	oerennial	Asteraceae
raawort, tansv', ••	*Senecio 'acobaea*	4105	oerennial	Asteraceae
smartweed, Pennsvlvania	*Polvaonum Densvlvanlcum*	3to 5	annual	polygonaceae
sneezeweed, bitler	*Helenium amarum*	4to 6	annual	Asteraceae

InvaSive plants are Inlroduced species that are to be InvaSlve In the USDA-NACS, PLANTS Database (hltp.l/plants.usda.govlindex.html).
"Plants designated as noxious weeds in at leasl one state (PLANTS Database, USDA-NACS, htlp:/Iplants.usda.govlindex.html).

(1) Sulfur cinquefoil or oxeye daisy: Apply Milestone at 4 to 6 fl oz per acre to plants the prebud stage of development.
(2) Orange or yellow hawkweeds: Apply Milestone at 4 to 6 II oz per acre to plants in the bolting stage of development.
(3) Diffuse and spotted knapweeds: Apply Milestone at 5 to 7 ßz per acre when planls are actively growing with the optimum lime 01 application occurring from rosette 10 the balling stages of development or in the lall.
(4) Russian knapweed: Apply Milestone at 4 10 611 oz per acre to plants in the spring and summer that are in the bud to flowering slage and to dormant plants in the fall.

	Scientific Name	Rate Range (fl ozlacrel	Life Cycle	Plant Famllv
	Solanum viaf1Jm	5 t07	oerennlal	Solanaceae
**	*Sonchus arvensis*	3105	oerennial	Asteraceae
star thistle, vellow (6)*, **	*Centaurea solstilialis*	3105	annual	Asteraceae
sunflower, common	*Helianthus annuus*	4 to 6	annual	Asteraceae
teasel, fuller's'	*DiDsacus sativus*	4107	biennial	Diosacaceae
thistle. bull 7','·	*eirsium vufoare*	3 to 5	biennial	Asteraceae
thistle, Canada 8 .J **	*Cirsium arvense*	5107	oarennial	Asteraceae
thistle, musk (7)*, **	*Carduus nutans*	3 to 5	biennial	Asleraceae
thistle, olumeless 7 " ••	*Carduus acanthoides*	3 to 5	biennial	Asleraceae
wormwood, absinth", **	*Artemisia absinthium*	6 to 7	oerennial	Asteraceae
varrow, common	*Achiflea mil/efofium*	7	oerennial	Asteraceae

*Invaslve plants are Introduced species that are to be invasive in the USDA-NRCS, PLANTS Database (http.l/plants.usda.gov/index,html).
··Planls designated as noxious weeds in at least one state (PLANTS Database, USDA-NRCS, http://plants.usda.gov/index.html).

(5) Tropical soda apple: Apply Milestone at 5 10 7 fl oz per acre at any growth stage, but application by flowering will reduce seed production potential.
(6) Yellow starthlstle: Apply Milestone al 3 to 5 fl oz per acre to plants at the rosette through boiling growth stages.
(7) Bull, musk and plumeless thistles: Apply MileSione al 3 to 5 II oz per acre in the spring and early summer to rosette or boiling plants or in the lallto seedlings and rosettes. Apply at 4 to 5 fl oz when plants are at the late bolt through early flowering growth stages.
(8) Canada thistle: Apply Milestone at 5 to 7 fl 02 per acre either in the spring to plants in the prebud growth stage or in the fall to plant

General Mixing and Application Instructions

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 recommended amount of Milestone and other registered tank mix herbicides. Finally, with continued agitation, add the rest of the and additives such as surfactants or drill control and deposition aids.

Tank Mixing with Other Herbicides: Milestone at rates of up to 7 II oz per acre may be mixed labeted rates of other herbicides registered for application on rangeland, permanenl grass pastures, CRP acres, and non-cropland areas to broaden the spectrum of weeds controlled or to Improve control of certain weeds. Milestone may be applied in lank mix combination labeled rates of other herbicides provided: (1) the tank mix product is labeled lor 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. Wnen tank mixing, use only in accordance with the most restrictive precautions and limitations on the respective product labels.

- Read carefully and follow all applicable use precautions, and limitations on the respective prOduct labels.
  Do not exceed recommended application 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 jar test to ensure the compatibility of products to be used in tank mixture.

Tank Mix Compatibility Testing: A jar test is recommended prior to mixing in a spray tank to ensure compatibillly of Milestone and other pesticides or carriers. Use a clear glass jar lid and mix ingredients in the same order and proportions as will be used in the spray tank. The mixture is compatible if the malerials mix when the jar is inverted several times. The mixture should remain stable after standing for 1/2 hour or, if separation occurs, should readily remix if agitated. An incompatible mixture is indicated by separation into distinct layers thal do not remix when agitated and/or the presence of flakes, precipitates, gels, Or heavy oily film in the jar. Use of an appropriate compatibility aid such as Unite or Complex may mix incompatibility. If the mixture is incompatible do not use that tank mix partner in tank mixtures.

Use with Surfactants on Rangeland, Permanent Grass Pastures and CRP Acres: The addition of a high quality non-ionic surfaclant at 0.25 to 0.5 % volumo per volume (1 to 2 quarts per 100 gailons of spray) is recommended to enhance herbicide activity under adverse environmenlal conditions (such as, high lemperature, low relative humidity, drought conditions, dusty plant surfaces) or whon weeds are heavily pubescent or more malure.

Mixing with Sprayable LIquid Fertilizer Solutions: Milestone is usually compalible with liquid fertilizer solutions. II is anticipated that Milestone will not require a compatibility agent for mixing 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 mixlure ingredients or concentralions 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 lemperature 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 withoul 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 used as carrier for Milestone can cause yellowing of the foliage of forage grasses and other vegetation.

Sprayer Clean-Out Instructions
Do not use spray equipment used to apply Milestone for other applications to land planted lO, or 10 be planted to, susceptible crops or desirable sensitive plants unless il has been determined that atl residues of this herbicide has 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 aller use. Dispose 01 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 enUre system so that internat surfaces are contacted (15 to 20 minutes). Iet the solulion 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 waler, recirculating and draining each time.
5. Spray nozzles and should be removed and cleaned separately.

Precautions for Avoiding Spray Drift

Avoid application under conditions that may allow spray drift because very small quantilies 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-larget crops and other plants) is minimal (e.g., when wind is blowing away from the sensitive areas. A drill control aid may be added to the spray solution to further reduce the potential for drift. If a drill control aid is used, follow the use directions and precautions on the manufacturer's label. Do not use a Ihickening agenl with Microfoil, Thru-Valve booms, or other spray delivery sYstems that cannot accommodate thickened spray solutions.

Ground Equipment: Wilh ground equipment spray drill 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 recommended minimum pressures for the specific nozzle type used (low pressure nOlzles are available from spray equipment manufacturers): and by spraying when the wind velocity 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 drifl.

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

The fallowing drill management requirements must be followed to avoid off-target drift movementIrom aerial applications:

1. The distance of the outer most operating nozzles on the boom must not exceed 75% of wingspan or 90% of rotor diameter.
2. Nozzles should be poinled backward parallel with the air stream or not pointed downwards more 1han 45 degrees.

Where states have more stringent regulations, they should be observod.

The applicator should be familiar with and take into account the information covered in the following Aerial Drift ReducIlon Advisory. This information Is advisory in nature and does nol 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 conlrol. Applying larger droplets reduces drift potential, but will not prevent drift if applicalions 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 wilh higher raled flows produce larger droplets.

Pressure· Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower produces larger droplets. When higher flow rales are needed, use higher flow rate nozzles Instead of increasing pressure.

Number of Nozzles - Use the minimum number 01 nozzles that will proVide unilorm coverage.

- Nozzle Orientation - Orienting nozzles so that Ihe spray is released parallel to the airstream produced larger droplets than olher orientalions and is the recommended practice. Significant deflection from horizontal 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 orienled straight back produce the largest droplets and the lowest drift.

Boom length: For some use patterns, reducing the effective boom length 10 less than 90% of the wingspan or rotor length may lurther reduce drift without reducing swath width.

Application Height: Applications should not be made at a height greater than 10 feet above the top 01 the largest plants unless a greater height is required for aircraft safety. Making applications althe lowest height Ihal is sale 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 compensale tor this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, increasing drift potential (higher wind, smaller drops, ctc.).

Wind: Drift potential is lowest between wind speeds 01 2 to 10 mph. However, many factors, including size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due 10 variable wind direction and high inversion potential. Note: local terrain can inlluence wind patterns. Every applicator should be familiar with local wind patterns and how they allect drift.

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 oHen continue inlo 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 Ihallayers 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.

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. Otherwise, use by the buyer or any user acceptance of the terms under Warranty Disclaimer, Inherent Risks 01 Use and Limitation of Remedies.

Warranty Disclaimer

Dow AgroSclences warrants that this product conforms to the chemical description on the label and is reasonably for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. Dow AgroSciences 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 risks associated with use of this product. Crop injury, lack of performance, or other consequences may result because of such factors as use of the producl contrary to label instructions (including noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnOrmal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, 1he manner of application, or other faclors, all of which are beyond the control of Dow AgroSciences or the seller. All such risks shall be assumed by buyer.

Limitation of Remedies

The exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict or other theories), shall be limited to, al Dow AgroSciences' election, one of the following:

1. Refund 01 purChase price paid by buyer or user for product bought, or
2. Replacement of amount of product used.

Dow AgroSciences shall not be liable for losses or damages from handling or use of this product unless Dow AgroSciences is promptly notified 01 such loss or damage in writing. In no case shall Dow AgroSciences 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 wrillen or verbal statements or agreements. No employee or sales agent of Dow AgroSciences 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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Dow AgroSciences LLC -Indianapolis. IN 46268 U.S.A.

Label Code: 002-879-001
Printing
LOES Number: 010-02112

EPA-accepted *08/10/05*

Revisions:

Initial Printing,

MATERIAL

Dow

Emergency Phone: 800-992-5994
Dow AgroSclences LLC
Indianapolis, IN 46268

Effective Date: 20-Apr-06
Product Code: 102721
MSDS: 007887

1. PRODUCT AND COMPANY IDENTIFICATION:

2. HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW

Brown liquid with a mild odor. May cause temporary eye irritation. May cause skin irritation.
EMERGENCY PHONE NUMBER: 800-992-5994

3. COMPOSITION/INFORMATION ON INGREDIENTS:

Aminopyralid tri-isopropanolammonium	CAS # 566191-89-7	*40.6%*
Balance, Total, Including		59.4%

4. FIRST AID:

EYE: Flush eyes thoroughly with water for several minutes. Remove contacllenses, if present, atter the initial 1-2 minutes. If effects occur, consult a physician, preferably an ophthalmologist.

SKIN: Wash skin with plenty of water.

INGESTION: No emergency medical treatment necessary.

INHALATION: Move person to fresh air; if effects occur, consult a physician.

NOTE 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.

15. FIRE FIGHTING MEASURES'

FLASH POINT: Not applicable (water-based material)
METHOD USED: Not applicabie

FLAMMABLE LIMITS
LFL: Not determined
UFL: Not determined

EXTINGUISHING MEDIA: Foam, CO_2 or Dry chemical

FIRE AND EXPLOSION HAZARDS: Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination. Toxic irritating gases may be formed under fire conditions.

FIRE-FIGHTING EQUIPMENT: Use positive-pressure, self-contained breathing apparatus and full protective eqUlpment.

1-6-. ACCIDENTAL RELEASE MEASURES:

ACTION TO TAKE FOR SPILLS: Absorb small spills wilh materiais such as sand, sawdust, Zorball, or dirt. Wash exposed body areas thoroughly after handling. Report large spills to Dow AgroSciences at *800-992-5994*.

17. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing vapors and spray mist. Handle concentrate in ventilated area. Wash thoroughly with soap and water atter handling and before eating, chewing gum, using tobacco, using the toilet or smoking. Keep from food, feedstuffs, and water supplies. Store in original container with the lid tightly closed.

18. EXPOSURE CONTROLS/PERSONAL PROTECTION:

These precautions are suggested for conditions where the potentiai for exposure exists. Emergency conditions may require additional precautions.

EXPOSURE GUIDELINES: None established

ENGINEERING CONTROLS: Good generai ventilation should be sufficient for most conditions.

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

EYE/FACE PROTECTION: Use safety glasses.

SKIN PROTECTION: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full-body suit will depend on the task.

Dow

in

10. STABILITY AND REACTIVITY:

12. ECOLOGICAL INFORMATION:

11. TOXICOLOGICAL INFORMATION:

EYE: May cause slight temporary *eye* irritation. Corneal injury is unlikely.

Material is practically non-toxic to aquatic organisms on an acute basis (LC_{50} or EC_{S}, is >100 mg/L).
Material is practically non-toxic to fish on an acute basis (LC_{S}, is >100 mg/L).
Material is practically non-toxic to birds on an acute basis (LOs, is >2000 mg/kg).

MATERIAL SAFETY DATA SHEET

Dow AgroSciences

Emergency Phone: 800-992-5994
Dow AgroSclences LLC
Indianapolis, IN 46268

MILESTONE* HERBICIDE

Effective Date: 20-Apr-06
Product Code: 102721
MSDS: 007887

13. DISPOSAL CONSIDERATIONS:

DISPOSAL METHOD: 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 and regulations.

14. TRANSPORT INFORMATION:

U.S. DEPARTMENT OF TRANSPORTATION (DOT) INFORMATION:

For all package sizes and modes of transportation:
This material is not regulated for transport

15. REGULATORY INFORMATION:

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. RegUlatory requirements are SUbject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations.

U.S. REGULATIONS

SARA 313 INFORMATION: To the best of our knowledge, this product contains no chemical subject to SARA Title III Section 313 supplier notification requirements.

[SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Section 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

No real health hazard

TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are on the TSCA inventory or are not reqUired to be listed on the TSCA inventory.

OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

STATE RIGHT-TO-KNOW: This product is not known to contain any substances subject to the disclosure requirements of

New Jersey
Pennsylvania

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, or SUPERFUND): To the best of our knowledge, this product contains no chemical subject to reporting under CERCLA.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

Health	1
Flammability	0
Reactivity	0

16. OTHER INFORMATION:

MSDS STATUS: Revised Sections: 2, 4, 8, 12 & 15
Reference: DR-0368-4864
Replaces RSSDS Dated: 3-Jan-06
Document Code: 003-879-003
Replaces Document Code: D03-879-002

The Information Herein Is Given In Good Faith, But No Warranty, Express or implied, Is Made. Consult Dow AgroSciences for Further Information.

(4 pounds per gallon glyphosate acid).

EPA Reg. No. 62719·324

Keep Out of Reach of Children

CAUTION PRECAUCION

51 ustod no ontlcnde la ctiqueta, busquo a alguion para que se la explique a usted en delalle. (If you *do* not understand the label, find someone to explain it to you in delail.)

Precautionary Statements

Hazards to Humans and Domestic Animals

Harmful If Inhaled

Avoid breathing spray mist. Remove contaminated clothing and wash before reuse. Wash thoroughly with soap and water after handling.

Personal Protective Equipment (PPE)

Applicators and other handlers must **wear:**

- Long·sleeved shirt and long pants
- Shoes piUS socks.

Follow manufacturer's instructions for cleaning/maintaining PPE (Personal Protective Equipment). If no such instrucllons for wash ables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Controls

When handlars closed systems, enclosed cabs, or aircraft in a manner that meets the requiraments lisled in Worker Protection Standard (WPSj for pesticides [40 CFA 170.240 (d) (4-6)], handler PPE requirements may be reduced or as specified in the WPS.

User Safety Recommendations

Users should;

- Wash hands before eating, drinking, chewing gum, using lobacco, or using the toilel.
- Remove clothing immedialely if pesticide gets inside. Then wash thoroughly and on clean clothing.

First Aid

II Inhaled: Move person to air. If person is nol breathing, call 91 t or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further 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 contaminate water when cleaning equipment or disposing 01 equipment washwaters. Treatment of aquatic weeds can resull oxygen depletion or loss due to decomposition of dead plants. This oxygen loss can cause fish suflocalion.

In case of leak or spill, soak up and remove 10 a landfill,

Physical or Chemical Hazards

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

Do not mix, store or apply this product or spray **solutions** of this product **In galvanized** steel or unlined steel (except stainless steel) containers or spray tanks. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas, which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if igniled by open flame, spark, welder's lorch, lighted cigarette or other ignilion source.

Nollce: Read the label. Use only according to label directions. Before using this product, read Terms and Condilions of Use, Warranty Disclaimer, Inherent Risks ot Use, and Limitation of Remedies elsewhere on thIs label. II terms are unacceptable, return at once unopened.

Worker Protection Standard.

Do nol enter or allow worker enlry into treated areas during the restricted entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted undor the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

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

Storage and Disposal

Do nol contaminate water, food, feed or seod by storage or disposal.
Pesticide Storage: Store above 10°F (-12°C) to keep product from crystallizing. Crystals 10 the boltom. If allowed to crystallize, place in a warm room 68°F (20°C) Ior several days to redissolve and roll or shake container or recirculate in mini-bulk containers to mix well before using.
Pesticide Disposal: Wastes resulting from use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state or local procedures.
Container Disposal: Emplied container retains vapor and product residue. Observe all labeled safeguards container is cleaned, reconditioned or destroyed. Do not reuse this container. Triple rinse (or equivalent). Then puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authOrities, by burning. If burned, stay out of smoke.

General In!ormation

(How this product works)

This product is a water-soluble liqUid, which mixes readily with water and nonionic surfactant to be applied as a foliar spray for the control or destruclion of many herbaceous and woody plants. This product is intended for control of annual and perennial weeds and woody plants in foresls, pine straw plantations, non-crop sites such as utility rights-of-way, and in and around aquatic siles; also for use wildlife habitat areas, Ior perennial grass release, and grass growth suppression and grazed areas on these sites.

The active ingredient in this product moves through the plant from the point of foliage contact to and into Ihe root system. Visible effects on most annual weeds occur 2 to 4 days, 7 days or more on most perennial weeds, and 30 days or more on most woody plants. Extremely cool or clOUdy weather following treatmenl may slow the activity of Ihis product and delay visual effects of control. Visible effects inclUde gradual and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts.

Unless otherwise directed on this label, delay application until vegetation has emerged and reached the stages described for control of such vegetation under 'Weeds Controlled" section of this label.

Unemerged plants arising from unattached underground rhizomes or root stocks of perennials or brush will not be affected by the spray and will continue to grow. For this reason best control of most perennial weeds or brush is obtained when treatment is made at late growth stages approaching maturity.

Always use the higher rate of this product and surfactant within the recommended range when vegetation is heavy or dense, when treating dense multi-canopied sites or WOOdy vegetation or diflicul!-to·control herbaceous or woody plants.

Do not treat weeds, brush or trees under poor growing conditions such as drought stress, disease or insect damage, as reduced control may result. Reduced control of target vegetation may also occur if foliage is heavily covered with dusl at the time of treatment.

Reduced conlrol may when applications are made to woody plants or weeds following site disturbance or plant lap growth removal from grazing, mowing, logging or mechanical brush control. For best resulls, delay treatment of such areas until resprouting and foliar growth has restored the target vegetation to the recommended stage of growth for optimum herbicide exposure and control.

Rainfall or irrigation occurring within 6 hours alter applicafion may reduce effectiveness. Heavy rainfall or irrigation within 2 hours alter application may wash the product off the foliage and a repeat treatment may be required.

This product does not provide residual weed control. For subsequent residual weed contrOl, follow a label-approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

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- applications and for cut stump treatments

For broadcast applications, observe the following restrictions for laclating dairy animals:

- For application rates of greater than 4.5 but not to exceed 7.5 quarts per acre, no more than 15 percent of the available grazing area may be treated.
- For application rates that do not exceed 4.5 quarts per acre, no than 25 percent 01 the available grazing area may be treated.

These restriclions do not apply to pastures, rangeland or forestry siles outside of utility rights-of-way,

NOTE: Use ollhis product any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences. When not in use, keep container closed to prevent spills and contamination.

Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixlures of this product or other materials that are not expressly recommended in this label. Mixing this product with herbicides or other materials not recommended in this label may result in reduced performance.

ATTENTION: Avoid drift. Extreme care must be used when applying this product to prevent Injury to desirable plants and crops.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of plant or crop injury occurring from the use of this product (s greatest when winds are gusty or in excess of 5 miles per hour or when other condilions, including wind velocities, allow spray drift to OCcur. When spraying, avoid combinations 01 pressure and nozzle tYPe that will result in splatter or fine particles (mist) which are likely to drift. Avoid applying al excessive speed or pressure.

Spray Drift Management

Avoiding spray drilt at applicalion site is the responsibility of the applicator. The interacllon of many equipment-and-weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid Off-targel drift movement from aerial applications to agricultural field crops. These requirements do nol apply to forestry applications, public health uses or to using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees. Where stales have more stringent regulations, they should be observed.

The applicator should be and take into account the information covered in the following Aerial Drift Reduction Advisory Information:

Importance of Droplet Size: The most effective way to reduce drift potential is to apply large droplets. The best drill management strategy to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will nol prevent drift if applications are improperly, or under unfavorable environmental (see Wind, Temperature and Humidity, and Temperature Inversion section of this label).

Controllng Droplet Size: Volume-Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows product larger droplets.

Pressure-Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

Number of nOZZleS-Use the minimum number of nozzles lhat provide uniform coverage.

Nozzle Orientation-Orienting nozzles so that the spray is released backwards, parallel to lhe airstream will produce larger droplets than other orienlations. Significant deflection from the horizontal will droplel size and increase drift potential.

Nozzle Type-Use a nozzle type that designed lor lhe intended application. Wilh most nozzle types, narrower spray angles produce larger droplets. Consider using low-drij: nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.

Boom Length-For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing SWath width.

Application-Applications should not be made at a height greater than 10 feel above the top of the largest plants unless a greater height is required lor aircraft safety. Making applications at the lowesl height that is safe reduces exposure of droplels to evaporation and wind.

increasing potential (higher wind, smaller drops. etc.),

Wind: Drift potential Is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine polential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. Note; Local terrain can influence wind patterns. Every applicator should be with local wind patterns and how they altect drift.

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

Temperature Inversions: Applications should not occur during a temperature inversion, because drill potontial is high. Temperature inversions restrict vertical air mixing, which causes 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 otten continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be idenlilied by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a connected cloud (under low wind condition.s) indicates an inversion, while smoke that moves upwards and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas: The pesticide should only be applied when the potential for drift to adjacenl sensilive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

Mixing And Application Instructio>ls

Apply these spray solutions In properly maintained and calibrated equipment capable of delivering desired volumes. Hand-gun applications should be properly directed to avoid spraying desirable plants. Note: reduced results may occur If water containing soil is used. such as water from ponds and unlined ditches.

Mixing

This product mixes readily with water. Mix spray solutions of this product as follows:

1. the mixing or spray tank with the required amount of water while adding the required amount 01 this product (see 'Vireclions for Use" and "Weeds Controlled" sections 01 this label).
2. Near the end of the lilling process, add the required sur1actant and mix weil. Remove hose from tank immediately after to avoid siphoning back into the water source.

Note: II tank mixing with Garlon· 3A herbicide, ensure that Garlon 3A Is well mixed with at least 75 percent of the total spray volume before adding this product to spray tank to avoid incompatibility.

During mixing and application, foaming of the spray solulion may occur. To prevent or minimize foam, avoid the use of mechanical agitators, place the lilling hose below the sur1ace of the spray solution (only during filling), terminate by-pass and return lines at the bottom of the tank, and, if needed, use an approved anti-loam or dcloaming agent.

Keep by-pass line on or near bottom of tank to minimize foaming. Screen size in nozzle or line slrainers should be no liner than 50 mesh. Carefully select correct nozzle to avoid spraying a fine mist. For best resuhs with conventional ground application equipment, use flat fan nozzles. Check lor even distribulion 01 spray droplets.

IMPORTANT: When using this product, unless otherwise specified, mix with a suriactant such as a non-ionic sur1actant containing 80% or greater active ingredient. For conifer release (pine release) use only sur1actants that are approved for conifer release, and specified on the surfactant label as safe for use in coniler release (pine release).
Always read and follow the manufacturer's surfactant label recommendations for best results.

Colorants or marking *dyes* approved for use with herbicides may be added to spray mixfures of this product. Colorants or *dyes* used in spray solutions of this product may reduce performance, especially at lower rates or dilutions. Use colorants or dyes according to the manufacturer's labol rocommendations.

Clean sprayer and parts immediately after using this product by thoroughly flushing with water and dispose of rinsatc according to labeled use or disposallnstructlons.

Carefully observe all cautionary statements and other information appearing in the suriactant label. •

Application Equipment And Techniques

ATIENTION: AVOID DRIFT. EXTREME CARE MUST BE EXERCISED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift, or splash onto desirable vegetation since minute quantilies of this product can cause severe damage or destruction to crops, plants, or other areas on which the treatment was not intended. The likelihood of plant or crop injury occurring from the use 01 this product is greatest when winds are gusly or in excess of 5 miles per hour or when other conditions, including lesser wind velocities, will allow spray drift fa occur. When spraying, avoid combinations of pressure and nozzle type that will resuh in splaller or fine particles (mist) which are likely to drift. AVOfD APPLYING AT EXCESSIVE SPEED OR PRESSURE.

Note: Use of this product in a manner not consistent with this label may result in injury to persons, animals, or crops, or other unintended consequences. When not in use, keep container closed to prevent spills and contaminalion.

Controlled"

conditions,
condition which

and

corrosion

rates of application and instructions for control of various annual and perennial weeds, see the "Weeds Controlled" section in this label.

Applications should be made on a spray-to-wet basis. Spray coverage should be uniform and complete. not spray to point of runoff.

Low volume directed sprays: This product may be used as a 5 to 10 percent solution low-volume direcled sprays for spot trealmant of trees and brush. This treatment method is most effective in areas where there a low of undesirable trees or brush. It a straight stream nozzle is used, start the application at the top of the targeted vegetation and spray from top to bo"om in a lateral zig-zag motion. Ensure that at least 50 percent of the leaves are contacted by tho spray solution. For flat fan and cone nozzles and wilh hand-directed mist blowers, mist the application over the altha targeted vegetation. Small, open· branched Irees need only be treated from one side. II the foliage is thick or there are multiple root sprouts, applications must be made from several sides to ensure adequate spray coverage.

Prepare the desired volume of spray solution by mixing the amount of this product in water. shown in the following table:

1 qt qt qt

qt gal 2 gal 5 gal 8 gal 10 gal

it

When applied as directed. this product plus a surfaclant such as a non-ionic surfactant containing 80% or grealer active Ingredient will control the following annual weeds:

Common Name	Sctentlflc Name
Balsamapple	*Momordica charantia*
Barley	*Hordeum vulgare*
Barnyardgrass	*Echinoch/o8 crus-gaflf*
Bassia, livehook	*Bassia hyssopilolia*
Bluegrass, annual	*Poa annua*
Bluegrass, bulbous	*Poa bulbosa*
Brome	*Bromus spp.*
Bullercup	*Ranunculus*
Cheat	*Bromus secalinus*
Chickweed, mouseear	*Cerastium vulgalum*
Cocklebur	*Xanthium slrumarium*
Corn, volunteer	*Zea mays*
Crabgrass	*Digitaria spp.*
Dwarfdandelion	*Krigia cespitosa*
Falseflax, smallseed	*Camelina microcarpa*
Fiddleneck	*Amsinckia spp.*
Flaxleaf fleabane	*Conyza bonariensis*
Fleabane	*Erigeron spp.*
Foxtail	*Setaria spp.*
Foxtail, Carolina	*Alopecurus caro/inianus*
Groundsel, common	*Senecio vulgaris*
Horseweed/Marestail	• *Conyza canadensis*
Kochia	*Kochia scoparia*
Lambsquarters, common	*Chenopodium album*
Lettuce, prickly	*Lacluca serriola*
Morningglory	*Ipomoea*
Muslard, blue	*Chorispora fenal/a*
Mustard, tansy	*Descurainia pinnata*
Mustard, tumble	*Sisymbrium altissimum*
Mustard,	*Sinapis arvensis*
Oats, wild	*Avena latuB*
Panicum	*Panicum spp.*
Pennycress, field	*ThJaspj arvense*
Pigweed, redroot	*Amaranthus relro!lexus*
Pigweed, smooth	*AmaranIhus hybridus*
Ragweed, common	*Ambrosia arlemisiifolia*
Ragweed, giant	*Ambrosia Irifida*
Rocket, London	*Sisymbrium iria*
Rye	*Secale cereale*
Ryegrass, Italian	*Lofium mulfiflorum*
Sandbur, field	*Cenchrus spp.*
Shatlercane	*Sorghum bicafor*
Shepherd's-purse	*Capse/{a bursa-pastaris*
Signalgrass, broadleaf	*Brachiaria platyphyl/a*
Smartweed, Pennsylvania	*Pofygonum pensy/vanicum*

product,

burned. See "Directions for Use," "GeneralInformalion" and "Mixing and Application Instructions" for labeled uses and specific application instructions.

Broadcast Application Rates: For weeds less than 6 inches tall, use 1 1/2 pints of this product per acre plus a surfactant such as a non-ionic surfactant containing 80% or greater active ingredient. II weeds are greater than 6 inches tall, use 2 1/2 pints 01 this product per acre plus a non-ionic surfactant containing or grealer ingredient..

Hand-Held, High-Volume Application Rates: Use a 3/4 percent solution 01 this product in water plus a surfactant such as a non-ionic surfactant containing 80% or greater active ingredient. Apply to loliage of vegetation to be controllod.

generally continue to germinate from seed throughout lhe growing season. Repeal treatments will be necessary to contrallater germinating woods.

Perennial Weeds

Apply this product to control most vigorously growing perennial weeds. Unless otherwise directed, apply when target plants are actively growing and most have reached early head or early bud stage of growth. Unless otherwise directed, allow at least 7 days after application before disturbing vegetation.

NOTE; If weeds have been mowed or tilled, do not treat until regrowth has reached the recommended stages. treatments must be applied before a killing frost.

Repeat treatments may be necessary to control weeds regeneralIng from underground parts or seed.

Specific Weed Control Recommendations: For perennial weeds, apply the recommended rate plus a surfactant such as a non-ionic surfaclant containing 80% or greater active ingredient.. Use of this product without surfactant result in reduced herbicide performance. Refer to the "Mixing and Application Instructions" section of this label and the surfactant manufacturer label for more information..
When applied as directed, this product plus a surfactant such as a non-Ionic surfaclant containing 80% or greater active Ingredient will control the following perennial weeds: (Numbers in parentheses "(-)" following common name of a listed weed species refer to "Specific Perennial Weed Control Recommendations" for that weed which follow the species listing.)

Common Name	Sclenliflc Name
Alfalfa (31)	*Medicago sativa*
Altigatorweed 1(1)	*Allemanihera philoxoroidos*
Anise/Fennel (31)	*Foeniculum vulgare*
Artichoke, Jerusalem (31)	*Helianthus tuberosus*
Bahiagrass (31)	*Paspafum noralum*
Bermudagrass (2)	*Cynodon dactylon*
Bindweed, field (3)	*Convolvulus arvensis*
Bluegrass, Kentucky (12)	*Poa prafensis*
Blueweed, Texas (3)	*Helianthus*
Brackenfern (4)	*Pteridium spp*
Bromegrass, smooth (12)	*Bromus inermlS*
Canarygrass, reed (12)	*Pha/aris arundinacea*
Cattail (5)	*Typha spp.*
Clover, red (31)	*Trifolium pratonse*
Clover, while (31)	*Tri/olium ropens*
Cogongrass (6)	*Imperata c1y/indrica*
Cordgrass (7)	*Spartina spp.*
CUlgrass, giant [1] (8)	*Zizaniopsis miliacea*
DalJisgrass (31)	*Paspalum di/aratum*
Dandelion (31)	*Taraxacum officinale*
Dock, curly (31)	*Rumex crispus*
Dogbane, hemp (9)	*Apocynum cannabinum*
Fescue (31)	*Festuca spp.*
Fescue, tall (10)	*Festuca arundinacea*
Guineagrass (11)	*Panicum maximum*
Hemlock, poison (31)	*Conium maculatum*
Horsenettle (31)	*Solanum carolinense*
Horseradish (9)	*Armoracia nlsticana*
Ice Plant (22)	*crystallinum*
Johnsongrass (12)	*Sorghum halepense*
Kikuyugrass (21)	*Penniselum cfandestinum*
Knapweed (9)	*Centaurea repens*
Lantana (13)	*Lantana camara*
Lespedeza, common (31)	*Lespedeza striata*
Lespedeza, sericea (31)	*Lespedeza cuneata*
Loosestrife, purple (14)	*Lythrum salicaria*
Lotus, American (15)	*Ne/umbo lutea*
Maidcncane (16)	*Panicum hematomon*
Milkweed (17)	*Asclepias spp.*
Muhly, wirestem (21)	*Muhlenbergia frondosa*
Mullein, common (31)	*Verbascum lhapsus*
Napiergrass (31)	*Pennlsetum purpureum*
Nightshade, silverleaf (3)	*Solanum efaeagnifofium*
Nutsedge, purple (18)	*Cyperus rotundus*
Nutsedge, yellow (18)	*Cyperus esculentus*
Orchardgrass (12)	*Dactylis glomerata*
Pam; (19)	*Corladerla jUbata*
Paragrass (16)	*Brachiaria mutica*
Phragmiles[11] (20)	*Phragmites spp.*
Quackgrass (21)	*Agropyron ropens*
Reed, giant (22)	*Arundo donax*
Ryegrass, perennial (12)	• *Lolium perenno*
Smartweed, swamp (31)	*Polygonum coccineum*
Spatterdock (23)	*Nuphar luteum*
Starthistle, yellow (31)	*Cen'aurea solslitiafis*
Sweet potato, wild [1](24)	*Ipomoea pandurata*
Thistle, artichoke (25)	*Cynara cardunculus*
Thistle, Canada (25)	*Cirsium arvense*
Timothy (12)	*Ph/eum pratense*
Torpedograss 1(26)	*Pan/cum rapens*
Tules, common (27)	*Scirpus acutus*
Vaseygrass (31)	*Paspafum urviflei*
Velvetgrass (31)	*Holcusspp.*
Waterhyacinth (28)	*Elchornia crassipes*
Waterlettuce (29)	*Pistia stratiotes*
Walerprimrose (30)	*Ludwigia spp.*
Wheatgrass, western (12)	*Agropyron smithii*

[1] Partial control.
[11] Partial control in southeastern slates. See "Specific Weed Control Recommendations" below.

Specific Perennial Weed Control Recommendations:

1. Alligatorweed: Apply 6 pints of this product per acre as a broadcast spray or as a 1 *1/4* percent solution with hand-held equipment 10 provide partial control 01 alligatorweed. Apply when most of the targel plants are in bloom. Repeal applications will be required to maintain such control.

results apply in late summer or fall.

4. Brackenfern: Apply *4112* to 6 pints of this product per acre as a broadcast spray or as a *3/4* to 1 percent solution with hand-held equipment. Apply to fully expanded fronds which are at least 18 Inches long.
5. Canall: Apply *4112* to 6 pints of this product per acre as a broadcast spray or as a 3/4 percent solution with hand-held equipment. Apply when target plants are aclively growing and are at or beyond the early-to-full bloom stage of growth. Best results are achieved when application is made during the summer or fall months.
6. Cogongrass: Apply 4 1/2 to 7 1/2 pints of this product per acre as a broadcast spray. Apply when cogongrass is at least 18 inches tall and actively growing in late summer or fall. Allow 7 or more days aller application before or mowing. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control.
7. Cordgrass: Apply 41/2 to *7112* pints of this product per acre as a broadcast spray or as a 1 to 2 percent solution with hand-held equipment. Schedule applications in order to allow 6 hours before treated plants are cQvered by tidewater. The presence of debris and silt on the cordgrass plants will reduce performance. It may be necessary to wash targeted plants prior to application to improve uptake of this product into the plant.
8. Cutgrass, giant: Apply 6 pints 01 this producl per acre as a broadcast spray or as a 1 percent solution hand-held equipment to provide partial control of giant cutgrass. Repeat applications will be required to maintain such control, especially where vegetalion is partially submorged in water. Allow for substantial regrowth to the 7 to 10-leaf stage prior to retreatment.
9. Dogbane, hemp / Knapweed I Horseradish: Apply 6 pints of this product per acre as a broadcast spray or as a 1 112 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth. For best resulls, apply in late summer or fall.
10. Fescue, tall: Apply 4112 pints of this product per acre as a broadcast spray or as a 1 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the boot-to-head stage of growth. When applied prior 10 the boot stage, less desirable conlrol may be obtained.
11. Gulneagrass: Apply 4 112 pints of this product per acre as a broadCast spray or as a 3/4 percent solution with hand-held equipment. Apply when larget plants are actively growing and when most have rcached at least tho 7-leaf stage of growth.
12. Johnsongrass / Bluegrass, Kentucky / Bromegrass, smooth / Canarygrass, reed / Orchardgrass / Ryegrass, perennial/ Timothy / Wheatgrass, western: Apply 3 to 4 1/2 pints of this product per acre as a broadcast spray or as a 3/4 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the boot-to-head stage 01 growth. When applied prior to the boot stage, less desirable control may be obtained. In the fall, apply before plants have turned brown.
13. Lantana: Apply this product as a 3/4 to 1 percent solution with hand-held equipment Apply to actively growing lantana at or beyond Ihe bloom stage of growth. Use the higher applicalion rate for plants that have reached Ihe woody stage of growth.
14. Loosestrife, purple: Apply 4 pints of this product per acre as a broadcast spray or as a 1 to *11/2* percent solution using hand-held equipment. Treat when plants are aclively growing at or beyond the bloom stage 01 growlh. Best results are achieved when application is made during summer or fall months. Fall treatments must be applied before a killing frost.
15. Lotus, American: Apply 4 pints of this producl per acre as a broadcast spray or as a 3/4 percent solution with hand-held equipment. Treat when plants are actively growing at or beyond the bloom stage of growth. Best results are achieved when application is made during summer or fall months. Falltreatmenls must be applied before a killing frost. Repeat treatment may be necessary to control regrowth from underground parts and seeds.
16. Maldencane / Paragrass: 6 pints of this product per acre as a broadcast spray or as a 3/4 percent solution hand-held equipment. Repeat treatments be required, especially to vegetation partially submerged in water. Under these conditions, allow for regrowth to the 7 to 10-leaf stage prior to retreatment.
17. Milkweed, common: Apply 4 1/2 pints of this product per acre as a broadcast spray or as a 1 *1/2* percent solulion with hand-held equipment. Apply when plants are actively growing and most have reached the Jate bud-to-flower stage of growth.
18. NUlsedge: purple, yellow: Apply 4 *1/2* pints of this product per acre as a broadcast spray, or as a 3/4 percent solution hand-held equipmenl to control exlsllng nutsedge plants and immature nutlets attached to trealed plants. Apply when target plants are in flower or when new nullets can be found at rhizome lips. Nutlets which have not germinated will not be controlled and may germinate follOWing treatmenl. Repeat treatments will be required *ior* long-term control.
19. Pampasgrass: Apply a 1 1/2 percent solution of this product wilh hand-held equipment when plants are actively growing.
20. Phragmites: For partial control of phragmites in Florida and the counties of olher states bordering the Gulf of Mexico, apply *7 1/2* pints per acre as a broadcast spray or apply a 1 1/2 percent solution with hand-held equipment. In other areas of lhe U.S., apply 4 to 6 pints per acre as a broadcast spray or apply a 3/4 percent solution with hand-held equipment for partial control. For best results. treat during late summer or fall months when plants are actively growing and in full bloom. Due to the dense nature of the vegelation, which may prevenl good spray coverage and uneven stages of growth, repeat treatments may be necessary to mainlain control. Visual control symptoms will be slow 10 develop.
21. Quackgrass / Kikuyugrass / Muhty, wirestern: Apply 3 to 4 1/2 pints ollhis product per acre as a broadcast spray or as a 3/4 percent solution wilh hand-held equipment when most quackgrass or wirestem muhly is at least 8 inches in height (3 to 4-leaf stage of growth) and actively growing. Allow 3 or more days after application before tillage.
22. Reed, giant lice plant: For control of giant reed and ice plant, apply a 1 *1/2* percent solution of this product with hand-held equipment when plants are actively growing. For giant reed, best results are obtained when applicalions are made in late summer to fall.
23. Spatlerdock: Apply 6 pints of this product per acre as a broadcast spray as a 3/4 percent solution with hand-held equipment. Apply when most plants are in full bloom. For best results, apply during the summer or fall months.

required to maintain such control.

27. Tules, common: Apply this product as a 1 1/2 percent solution with hand-held equipment. Apply to actively growing plants at or beyond the seedhead stage of growth. Aller application, visual symptoms will be slow to appear and may not occur lor 3 or more weeks;
28. Waterhyacinth: Apply 5 to 6 pints of this product per acre as a broadcast spray or apply a 3/4 to 1 percent solution with hand-held equipment. Apply when target plants are actively growing and at or beyond the early bloom stage of growth. After application, visual symptoms may require 3 or more weeks to appear with complete necrosis and decomposition usually occurring within 60 to 90 days. Use the higher rates when more rapid visual effects are desired.
29. Waterleltuce: For control, apply a 3/4 to 1 percent solution of this product wilh equipment to actively growing planls. Use higher rates where infestations are heavy. Best results are obtained from mid-summer through winter applications. Spring applications may require
30. Waterprimrose: Apply this product as a 3/4 percent solution using hand-held equipment. Apply to plants that are actively growing at or beyond the bloom stage of growth, but belore fall color changes occur. Thorough coverage is necessary for best control.
31. Other perennial weeds listed above: Apply 4 1/2 to 71/2 pints of per acre as a broadcast spray or apply as a 3/4 to 1 1/2 percent solution with hand-held equipment.

Woody Brush and Trees

NOTE: If brush has been mowed or tilled or trees have been do not treat until regrowth has reached the recommended stage of growth.

Application Rates and Timing

When applied as a 5 to 8 percent solution as a directed application as described in the "Hand-Held and High-Volume Equipment" section, this product will control or pal1ially control all wood brush and tree species listed in this section of this label. Use the higher rate of application for dense stands and larger woody brush and trees.

Specific Brush or Tree Control Recommendations: Numbers in parentheses "(-)" following the common name of a listed brush or tree species reter to "Specific Brush or Tree Control Recommendations" which follow the species listing. See this section *tor* specilic applicaiion rates and timing for listed species.

For woody brush and trees, apply the recommended rate plus a surfactant such as a non-ionic surtactant containing 80% or greater active ingredient. Use of this product without surfactant will result in reduced herbicide performance. Reier to the "Mixing and Application tnstruclions" section of this label and the surlactant manufacturer label for more information. Make applications when plants are actively growing and, unless otherwise directed, after full·leaf expansion. Use the higher rate for larger plants andlor dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best resulls are obtained when applicalion is made in late summer or fall alter fruil formation.

In arid areas, best results are obtained when application is made in the spring or early summer when brush species are at high moislure content and are flowering. Ensure thorough coverage when using hand-held Symptoms may not appear prior to Irosl or senescence with fall treatmenls.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regeneraling from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance result if fall treatments are made following a

See the "Directions for Use" and "Mixing and Application Instructions" sections this label for labeled use and specific application instructions. When applied as directed. this product plus a surfactant such as a non-ionic surfactant containing 80% or greater active ingredient will controllhe following woody brush planls and trees: (Numbers in parentheses "(·r following common name of a listed brush or tree species refer to "Specific Brush or Tree Control for that species which follow the species listing.)

Common Name	Scientific Name
Alder (1)	*Alnus spp.*
Ash 1(20)	*Fraxinus spp.*
Aspen, quaking (2)	*Populus tremu/oides*
Bearclover, Bearmat (20)	*. Chamaebatia folio/asa*
Birch (3)	*Betula spp_*
Blackberry (1)	*Rubus spp.*
French (4)	*Cytisus monspessulanus*
Broom, Scotch (4)	*Cytisus scoparius*
Buckwheat, California r(5)	*Eriogonum fasciculatum*
Cascara' (20)	*Rhamnus purshiana*
Calscfaw 1(6)	*Acacia gregg;*
Ceanothus (20)	*Ceanothus spp.*
Chamise (17)	*Adenostoma fasciculatum*
Cherry, bitter (7)	*Prunus emarginala*
Cherry, black (7)	*Prunus serotina*
Cherry, pin (7)	*Prunus pensylvanica*
Coyote brush (8)	*Baceharis consanguine8*
Creeper, Virginia 1(20)	*Parthenocissus quinquefofia*
Dewberry (1)	*Rubus trivia/is*
Dogwood (9)	*Comus spp.*
Elderberry (3)	*Sambucus spp.*
Elm 1(20)	*Ulmusspp.*
Eucalyptus, bluegum (10)	*Eucalyptus globu/us*
r(5)	*Hap/opappus squamosus*
Hawthorn (2)	*Crataegus spp.*
Hazel (3)	*Corylus spp.*
Hickory (9)	*Carya spp.*
Holly, Florida (11) (Brazilian peppertree)	*Schinus terebinthifolius*

Cherry,

'	*Acer circinatum*
Monkey flower 1(5)	*Mimulus guttatus*
Oak, black 1(20)	*Quercus velutina*
Oak, northern pin (14)	*Quercus pa/ustris*
Oak, post (1)	*Quercus stallata*
Oak, red (14)	*Quercus rubra*
Oak, southern red (7)	*Quercus fa/cala*
Oak. 1(20)	*Quercus alba*
Persimmon '(20)	*Diospyros spp,*
Polson-ivy (15)	*Rhus radicans*
Poison-oak (15)	*Rhus toxicodendron*
Poplar, yellow 1(20)	*Liriodendron lulipifera*
Prunus (7)	*Prunus spp.*
RasPberry (1)	*Rubusspp.*
Redbud, eastern (20)	*Cercis canadensis*
Rose, multiflora (16)	*Rosa*
Russian-olive (20)	*Elaeagnus angustilolia*
Sage: black (17), white	*Salvia spp.*
Sagebrush, California (17)	*Artemisia califomica*
Salmonberry (3)	*Rubus spectabilis*
Sail cedar 1(9)	*Tamarix spp.*
Saltbush, sea myrtle (18)	*Baccharis halimifo/ia*
Sassafras (20)	*Sassafras aibidum*
Sourwood 1(20)	*Oxydendrum arboreum*
Sumac, poison t (20)	*Rhus vernix*
Sumac, smooth 1(20)	*Rhus glsbrs*
Sumac. winged 1(20)	*Rhus copsllina*
Sweetgum (7)	*Liquidambsr styrsci!lua*
Swordlern 1(20)	*Pofystichum munitum*
Tallowlree. Chinese (17)	*Sapiurn sebiferum*
Thimbleberry (3)	*Rubus*
Tobacco, tree 1(5)	*Nicotiana glauca*
Trumpetcreeper (2)	*Campsis radicans*
Waxmyrtle, southern 1(11)	*Myrica cerifera*
Willow (19)	*Sslixspp.*

1 Partial control (See below for control or partial control instruclions.)

Specific Brush or Tree Control Recommendations:

1. Alder / Blackberry / Dewberry / Honeysuckle / Oak, Post / Raspberry: For control, apply 4 1/2 to 6 pints per acre as a broadcast spray or as a 3/4 to 1 1/4 percent solution with hand-held equipment.
2. Aspen, Quaking / Hawthorn / Trumpetcreeper: For control, apply 3 to 4 1/4 pints of this product per acre as a broadcast spray or as a 3/4 to 1 1/4 percent solution with hand-held equipment.
3. Birch / Elderberry / Hazell Salmonberry / Thlmbleberry: For control, apply 3 pints a.c.re of this product as a broadcast spray or as a 3/4 percent solution with equipment.
4. Broom, French / Broom, Scotch: For control, apply a 1 114 to 1/2 percent solution with hand-held equipment.
5. Buckwheat, California / Hasardia / Monkey flower / TObacco, tree: For partial control of these species, apply a 3/4 to 1 1/2 percent solution of this product as a foliar spray with hand-held equipment. Thorough coverage of loliage is necessary for best resulls, hand-held equipment when at least 50 percent of the new leaves are fully developed.
9. Dogwood / Hickory / Salt cedar: For partial control, apply a 1 to 2 percent solulion of this product with hand-held equipment or 6 to 7 1/2 pints per acre as a broadcast spray.
10. Eucalyptus, bluegum: For control of eucalyptus resprouts, apply a 1 1/2 percent solution of this producl with hand-held equipment when resprouts are 6 to tall. Ensure complete coverage. Apply when plants are actively growing. Avoid application to drought-stressed plants.
11. Holly, Florida / Waxmyrtle, southern: For partial control, apply this product as a 1 1/2 percent solution with hand-held equipment.
12. Kudzu: For control, apply 6 pints of this product per acre as a broadcast spray or as a 1 1/2 percent solution with hand-held equipment. Repeat applications will be required to maintain control.
13. Maple, red: For control, apply as a 3/4 to 1 1/4 percent solulion with hand-held equipment when leaves are fully developed. For partial control, apply 2 to 7 1/2 pints of this product per acre as a broadcast spray.
14. Maple, sugar / Oak: northern pin / Oak, red: For control, apply as a 3/4 to 1 1/4 percenl solution with hand-held equipment when at least 50 percent of the new leaves are fully developed.
15. Poison-ivy / Poison-oak: For control, apply 6 to 7 1/2 pints of this product per acre as a broadcast spray or as a 1 1/2 percent solution with hand-held equipment. Repeat applications may be reqUired 10 maintain control. Fall treatments must be applied before leaves lose green color.
16. Rose, multiflora: For controL apply 3 pints of this product per acre as a broadcast spray or as a 3/4 percent solution with hand-held equipment. Treatments should be made prior to leaf deterioration by leaf-feeding insects.
17. Sage, black / Sagebrush, California / Chamise / Tallowtree, Chinese: For control of these species, apply a 3/4 percent solution of this product as a spray with hand-held equipment. Thorough coverage of foliage is necessary for best results.
18. Saltbush, sea myrtle: For control, apply this product as a 1 percent solution with hand-held equipment.
19. Willow: For control, apply 4 112 pints 01 this product per acre as a broadcast spray or as a 3/4 percenl solution with hand-held equipment.
20. Other woody brush and trees listed above: For partial control, apply 3 to 7 1/2 pints of this product per acre as a broadcast spray or as a 3/4 to 1 1/2 percent solution with hand-held equipment.

Aquatic and other Noncrop Sites

Apply this product as directed and under conditions described to control or partially control weeds and WOOdy planls listed the Controlled" section in industrial, recreational and public areas or ether similar aquatic or terrestrial siles on this label.

Noncrop Sites

This product may be used to control the listed weeds In and around aquatic sites and on noncrap sites such as:

Airports
Golf Courses
Habitat Restoration & Management Areas
Highways & Aoadsides
Industrial Plant Siles
Lumberyards
Parking Areas
Parks
Petroleum Tank. Farms
Pipeline, Power. Telephone & Utility Rlghts-af-Way
Pumping Installalions
Railroads
Schools
Storage Areas
Sites

Aquatic Sites

This product may be applied to emerged weeds in all bodies of fresh and brackish water which may be flowing, nonflowlng or transient. This Includes lakes, rivers, streams, ponds. estuaries, rice levees, seeps, Irrigation and drainage ditches, canals. reservoirs, wastewater treatment facilities, wildlife habitat restoration and management areas and similar sites.

If aquatic sites are present in the nbncrop area and are part of the intended treatment, read and observe the following directions:

This product does not control plants which are completely SUbmerged or have a majority of their tollage under water.

There is no restriction on the use 01 trealed water for irrigation, recreation or domestic purposes.

Consult local state fish and game agency and water control authorities before applying this product to pUblic water. Permits may be required to treat such water.

NOTE: Do not apply this product directly to water within 1/2 mile up-stream 01 an active potable water intake flowing water (i.a., river, stream, etc.) or within 1/2 mile of an active potable water intake in a standing body of water such as lake, pond or reservoir. To make aquatic applications around and within 1/2 mile of potable water intakes, lhe waler intake must be turned off for a minimum period of 48 hours after the application. The water intake may be turned on prior to 48 hours if the glyphosale level in the intake water is below 0.7 parts per as determined by laboratory analysis. These aquattc applications may be made only in those cases where there are alternative water sources or holding ponds which would permit the turning off of an active potable waler intake for a minimum period of 48 hours alter the applications. This restriction does not apply to interminent inadvertent overspray of water in terrestrial use sites.

For treatments aller drawdown of water or in dry ditches, allow 7 or more days after treatment before reintroduction of waler to achieve maximum weed control. Apply this product within 1 day after drawdown to ensure application to actively growing weeds.

Floating mats of vegetation may require retreatment. Avoid wash-off of sprayed foliage by spray boat or recreational boat backwash or by rainfall within 6 hours of application. Do not re-treat within 24 hours following the initial treatment.

Applications made to moving bodies of water must be made while traveling upslream to prevent concentration of this herbicide in water. When making any bankside applications. do not overlap more than 1 foot into open water. Do not spray in bodies of water where weeds do not exist. The maximum application rate of 7 1/2 pints per acre must not be exceeded in any single broadcast application that is being made over water,

When emerged infestations require treatment of the lotal suriace area of impounded water, treating the area in strips may avoid oxygen depletion due to decaying vegetation. Oxygen depletion may result in fish kill.

Forestry Sites and Utility Rights-ol-Way

tn forest and utility sites, product recommended for the control or partial control of woody brush, treas, and annual and perennial herbaceous weeds. This product is recommended for use in preparing or establishing wildlife openings within these sites, In pine straw plantations for maintaining logging roads, and for side trimming along utility rights-ai-way.

In forestry sites, this product is recommended for use in site preparation prior to planting any tree species, including Christmas trees and silvicullural nursery sites.

sites. this product is recommended for use along electrical power, pipeline, and telephone rights-ot-way, and in other utility sites associated with these rights-ai-way, such as substations.

Application Rates t:

Method of Application	Application Rale	Spray Volume (aaUacrel
Broadcast		
Aerial	1.5 10 7.5 qUacre	5 to 30
Ground	1.5 to 7.5 aVacre	10 to 60
Spray-ta-Wet		
Handgun. Backpack Mistblower	0.75 to 2% by volume	spray-to-wet
Low Volume Dlrec[illegible]d Spray [illegible] Handgun, Backpack Mistblower	5% to 10% by volume	partial coverage

'Where repeat applications are necessary, do not exceed 8.0 quarts per acre per year.

[illegible] For low volume directed spray applications, coverage should be uniform with at least 50 percent of the foliage contacted. For best results. coverage of the top one-hall of the plant is important.

In forestry slte preparation and utility rights-ol-way applications. this product requires use with a surfactant such as a non-ionic surfactant containing greater than 80 percent active ingredient. Use 01 this product without surfactant will result in reduced herbicJdeperiormance. Refer to the "Mixing and Application Instructions" section 01 this label and the surfactant manufacturer label lor more information,

tuillea! expansion and before lal1 color and leaf drop. Use increased rates within the recommended rale range to control of perennial herbaceous weeds from emergence up to the appearance of seedheads, flowers or berries appear. Use lower rates within the recommended rate range to control annual herbaceous weeds and actively growing perennial herbaceous weeds after seedheads, flowers or berries appear. Apply 10 foliage of actively growing annual horbaceous weeds anytime after emergence.

Tank Mixtures

This product may be used in tank mix combination with other herbicide products to broaden the spectrum of vegetation controlled. When tank mixing, read and observe applicable use directions, precautions and on the respective product labels. Use according to the most restrictive precautionary statements for each product on the mixture. Any recommended rate of this product may be used in a tank mix,

Nate: For forestry sile preparation, make sure the tank mix product is approved for use prior to planting the desired species. Observe planting interval restrictions. For side trimming treatments in utility rights-of-way, tank mixtures with Arsenal 2WSL herbicide are not recommended. For side trimming treatments, it is recommended that this product be used alone as recommended, or as a tank mix with Garlon.

Product	Broadcast Rate	Use Sites
Arsenal Applicators Concentrate	2 to 16 fi ozlacrc	Forestry site oreoaration
Oust	1 to 4 ozJacre	Forestry sile oreoaration, ulilitv sites
Garlon 3A '	1 to 4 ql/acre	Forestry site oreoaration, utilitv siles
Garlon 4	1 to 4 ql/acre	Forestry site oreoaralion,
Arsenal 2WSL	2 to 32 fl ozJacre	Utilitv sites
	Spray-tO-Wet Rates	
Arsenal Applicators Concentrate	1/32% to 1/2% bv volume	Forestry site oreoaration
Arsenal2WSL	1/32% to 1/2% bv volume	Utility sites
	Low Volume Directed Spray Rates	
Arsenal Applicators Concentrate	1/8% to 1/2% bv volume	Forestry site preparation
Arsenal 2WSL	1/8% to 1/2% bv volume	Utility sites

t Ensure that Garton 3A is thoroughly mixed with water before adding this product. Agitation is required while mixing this product with Garlon 3A to avoid compatibility problems.

For control of herbaceous weeds, use the lower recommended tank mixture rates. For control of dense stands or difficulHo-control woody brush and trees, use the higher recommended rates.

Forestry Conifer and Hardwood Release

Directed Sprays and Selective Equipment

This product may be applied as a directed spray or by using selective equipment in forestry conifer and hardwood sites, including Christmas tree plantations and silvicultural nurseries. This product requires use with a surfactant. Use only surfactants that are approved for conifer release and specified on the surfactant label as safe for use in conifer release (pine release). Use of this product without surfactant will result in reduced herbicide performance. Refer to the "Mixing and Application Instructions" section of this label and the surfactant manufacturer label for more information.
Tank Mixing: In hardwood plantalions, tank mixtures with Oust may be used. In pine plantations, tank mixtures with Garlon 4 or Arsenal AC may be used. Comply with ail site restrictions, forestry species limitations, and precautions on the tank mix product labels.

Avoid contact of spray drift, mist or drips with foliage, green bark or non-woody surface roots of desirable plant species. See Equipment and section of this label for specific recommendations and precautions.

Spray-to-Wet Applications: Use a 2 percent spray solution to control undesirable woody brush and trees. To control herbaceous weeds, use a 1 to 2 percenl spray solution.

low Volume Directed Spray Applications: Use a 5 to 10 percent spray solution. Coverage should be uniform with at least 50 percent of the foliage contacted. Coverage of the top one-hall of the unwanted vegetation is important.

Broadcast Applicallons: For equipment calibrated for broadcast applications, use 1 1/2 to 7 1/2 quarts 01 this product per acre. Apply in 10 to 60 gallons of clean water per acre. Shielded application equipment may be used avoid contact of spray solution with desirable plants. Shields should be adjusted to prevent spray contact with the foliage of green bark of dosirable vegetation.

Wiper Application Equipment: See the "Seleclive Equipment" section of this label for equipment and application rate recommendations.

Broadcast Application

Note: Except where specifically recommended below, make broadcast applications ollhis product only where conifers have been established for more than one year.

Broadcast application must be made after formation of final conifer resting buds In the fali or prior to initial bud swelling In the spring.

Injury may occur to conifers treated for release, especially where spray patterns overlap or the higher rates are applied. Damage can be accentuated if applications are made when conifers are actively growing, or are under stress from drought, flood water, improper planting, Insects, animal damage or diseases.

Accord Concentrate requires use with a surfactant. Use a surfactant that is laberedlrecommended for use in over-the-top releaSe applications. Use of this product without a surfactant will result in reduced herbicide performance. Refer to the "Mixing and Application Instructions" seclion of this label and the surfactant manufacturer tabel for mOre information.

injury to these species may result a surfactant is used.

Application Rate for Conifer Release: Apply 3/4 to 1 1/2 quarts per acre as a broadcast spray. In Maine and New Hampshire, up to 2 1/4 quarts per acre ollhis product may be used for the control and suppression of difficult-to-control hardwood species.

To release Douglas fir, and pine and spruce species at the end of the first growing season (except in California), apply 3/4 to 1 1/8 quarts per acre of this product. Make sure that all conifers are well hardened off.

Note: For release of Douglas fir with this product or recommended tank mixtures, a nonionic surfactant recommended for over-the-top foliar spray may be used. To avoid possible coniler injury, nanionic surfactants may be at 2 fluid ounces per acre at elevations above 1500 feel, or 1 fluid ounce per acre the coastal range or at elevations below 1500 feel. Use 01 surfactant rates exceeding those above may result in unacceptable conifer injUry and are not recommended. Make sure that the nonionic surfactant has been adequately tested for safety to Douglas fir before use..

Tank Mixtures with Oust: To jack pine, white pine and white spruce, apply *3/4* to 1 1/2 quarts of this product with 1 to 3 ounces (1 to 1 1/2 ounces for white pine) of Oust per acre. Make applications to actively growing weeds as a broadcast spray over the top of established conifers. Applications at these rates should be made after lormation 01 conifer resting buds in the lale summer or fall.

Tank Mixtures with Arsenal Applicators Concentrate: This product may be tank mixed with Arsenal Applicators Concentrate for release 01 Douglas fir. Tank mix 3/4 to 1 1/8 quarts of this product 2 to 6 fluid ounces of Arsenal Applicators Concentrate per acre. For release of balsam and red spruce, apply a of 1 1/2 quarts of this product wilh 1 to 2 1/2 fluid ounces of Arsenal Applicators Concentrate per acre.

In Maine and New Hampshire for the release 01 red pine, balsam fir, red spruce, while spruce, Norway spruce, and black spruce with dense tough-to-control brush and where maples make up a large component of the undesirable trees, up to 21/4 quarts per acre of this producl may be tank mixed with 1 to 2 1/2 fluid ounces per acre of Arsenal Applicators Concentrate herbicide and applied as a broadcast spray.

Tank mixtures with Arsenal Applicators Concentrate and Oust or Oust XP Herbicides: In Maine and New Hampshire for release of red pine, balsam fir, red spruce, white spruce, Norway spruce and black spruce with heavy grass and herbaceous weed densities, tough-to-control brush and where maples make up a large component of the undesirable trees up to 2 *1/4* quarts per acre of this product may be tank mixed with 1 to 2.5 fluid ounces per acre of Arsenal Applicators Concentrate and 1 10 3 oz 01 Oust or Oust XP harbicides and applied as a broadcast spray.

For release 01 the followIng conifer species in the Soulheastern United States:

Loblolly pine *(Pinus taeda)*
Eastern white pine *(Pinus strobus)*
Shortleaf pine *(Pinus echinata)*
Slash pine *(Pinus efliot'il)*
Virginia pine *(Pinus virginiana)*
Longleaf pine *(Pinus pafustris)*

Apply 1 1/8 to 1 7/8 quarts of this product per acre as a broadcast spray during late summer or early fall aUer the conifers have hardened all. For applications at the end of the first growing season, use 3/4 quart 01 this product alone or in a recommended tank mixture.

Tank Mixtures with Arsenal Applicators Concentrate: For conifer release, apply 3/4 to 1 1/2 quarts of this product with 2 to 16 fluid ounces of Arsenal Applicators Concentrate per acre as a broadcast spray. Use only on conifer species that are labeled for over-the-10p spray for both products. Use the higher recommended rates Ior dense tough-to-control wood brush and trees.

Read and observe label claims, caulionary statements and all Information on the labels of each product used in these tank mixtures. Use according to the most restrictive precautionary statemenls for each product in the mixture.

Herbaceous Release

When applied as directed, this product plus listod residual herbicides provides postemargence control of the annual weeds and control or suppression of the perennial weeds in this label, and residual control of the weeds listed in the residual herbicide label. Make applications to actively growing weeds as a broadcast spray over the top of labeled conifers.

Tank Mixtures with Ousl: To release loblolly pines, tank mix 12to 18 fluid ounces 01 this product with 2 to 4 ounces 01 Oust per acre.

To release slash pines, tank mix 9 to 12 fluid ounces of this product with 2 to 4 ounces of Oust per acre.

In Maine and New Hampshire for release of red pine, balsam fir, red spruce, while spruce, Norway spruce, and black spruce with heavy grass and herbaceous weeds infesting the sile, up to 2 1/4 quarts per acre of may be tank mixed with 1 to 3 oz of Oust herbicide or Oust XP herbicide to control grass, herbaceous weeds and woody brush, and applied as a broadcast spray.

For tank mixtures with Oust use a surfactant that is labeled! recommended for use in over-the-top herbaceous release applications. Use of this product without a surfactant result in reduced herbicide performance. Refer to the "Mixing and Application Instructions" section of this label and surfactant manufacturer label Ior more information.

Weed control may be reduced if water volumes exceed 25 gallons acre Ior these trealments.

thal has been established for at least one lull growing season. Apply in the early spring, usually mid-March through early April. Injury will occur if applications are made after bud swell in the spring, For this use, do not add surfactant to the lank mixture.

Always read and follow the manufacturer's label for all herbicides and surtactants used.

Wetland Siles

This product may be used in and around water (aquatic areas) and wetlands found forestry and in power, telephone and pipeline rights-of-way siles, including where these slles afe adjacent to or surrounding domestic water supply reservoirs, supply streams, lakes and ponds. Read and observe the following before making applications in and around water.

Consuillocal pUblic water control authorities before applying this product in and around public water. Permits may be required to treat in such areas.

There is no restriction on the use of treated water for irrigation, recreation or domestic purposes.

Note: 00 not apply this product directly to water within 1/2 mite up-stream of an active potable water intake in flOWing water (I.e., river, stream, etc.) or within 1/2 mile of an active potable water inlake In a slanding body of water such as a lake, pond or reservoir. To make aquatic applicalions around and within 1/2 mile of active potable water inlakes, the water intake must be turned off for a minimum period of 48 hours after application. These aqualic applications may be made ONLY in those cases where there are allernalive water sources or holding ponds which would permit the turning off 01 an active potable water intake for a minimum period 01 48 hours after the application. This restriction does not apply to intermillent inadvertent overspray of water in terrestrial use siles.

Do not spray open bodies 01 water where woody brush, trees and herbaceous weeds do not exisl. The maximum application rate of 33/4 quarts per acre must not be exceeded in a single over-water broadcast application except as lollows, where any recommended rate may be applied:

Stream crossings in utility righi-ai-way.
Where applications will result in less than 20 percent of the total water aroa being treated.

Wildlife Habitat Restoration and Management Areas

This product is recommended for the restoration and/or maintenance of native habitat and in wildlife management areas.

Habitat Restoration and Maintenance: When applied as directed, exotic and olher undesirable vegetation may be controlled in habitat management areas. Applications may be made to allow recovery of native plant species, to open up water to aUract waterfowl, and for similar broad-spectrum vegetation control requirements in habitat management areas. Spot treatments may be made to selectively remove unwanted plants for habitat enhancement. For spot treatmenls, care should be exercised to keep spray off of desirable plants.

WIldlile Food Plots: This producl be used as a site preparation trealment prior to planting wildlife food plots. Apply as directed to control vegetation in the plot area. Any wildlife food species may be planted after applying this prOduct, or native species may be allowed 10 reinfest the area. If tillage is needed to prepare a seedbed, wait 7 days aller applying this product before lilling to allow for maximum effectiveness.

Wiper Applications

For wick or wiper applications, mix 1 gallon 01 this product with 2 gallons 01 clean waler to make a 33 percent solution. of a nonionic surfactant at a rate of 10 percent by volume of total herbicide solution is recommended.

Wiper applications can be used to control or suppress annual and perennial weeds listed on this label. In heavy weed stands, a double application in opposite directions may improve results. See the "Weed Controlled" section in this label for recommended timing, growth stage and other instructions for achieving optimum resulls

Cut Stump Application

Woody vegetation may be controlled by treating freshly cut stumps of trees and resprouls with this Apply this product using suitable equipment to ensure coverage of the entire cambium. Cui vegetation close to the soil surface. Apply a 50 to 100 percent solution of this product to Ireshly cut surface Immediately after cutting. Delay applying this product may result in reduced performance. For best results, trees should be cul during periods of active growth and lull leaf expansion.

When used according to directions for cut stump application, Ihis product will control, partially control or suppress most WOOdy brush and tree species, some of which are listed below:

Common Name	Scientific Name
Alder	*Alnus spp.*
Coyote brush	*Baccharis consanguinea*
DogWOOd	*Comus spp.*
Eucalyptus	*Eucalyptus spp.*
Hickory	*Carya spp.*
Madrone	*Arbutus menziesii*
Maple	*Acer spp.*
Oak	*Quercus spp.*
Poplar	*PopUlUS spp.*
Reed, giant	*Arundo donax*

' This product is nol approved for this use on these species in state of California.

Injection and Frill Applications

Woody vegetation may be controlled by injection or trill application of this product. Apply this product using suitable equipment which must penetrate into living tissue. Apply the equivalent of 1 ml of this product per 2 10 3 inches of trunk diameter. This is best achieved by applying 25 to 100 percent concentration of this product either 10 a continuous frill around the Iree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying dilute material to a continuous or more closely spaced cuttings. Avoid application techniques thai allow runoff to occur from frill or cui areas in species that exude sap freely after frills or culling. In species such as these, make frill or cut at an oblique angle so as to produce a cupping effect and use undiluted material. For best results, applications should be made during periods of active growth and fuJl leat expansion.

This treatment will control the following woody species:

Common Name	Scientific Name
Oak	*Quercus spp.*
Poplar	*Populus spp.*
Sweet gum	*Liquidambar styrBcifluB*
Sycamore	*Platanus occidentalis*

This treatment will suppress the following woody species:

Common Name	Scientific Name
Black gum ı	*Nyssa sylvariea*
Dogwood	*Comusspp.*
Hickory	*Carya spp.*
Maple, red	*Aeer rubrum*

'This product not approved for this use on this species in the state ot California.

Release of Bermudagrass or Bahlagrass on Noncrop Sites

Release Of Dormant Bermudagrass And Bahiagrass

When applied as directed, this product will provide control or suppression 01 many winter annual weeds and tali fescue for eltective release of dormant bermudagrass or bahiagrass. Make.applicalions 10 dormanl bermudagrass or bahiagrass.

For best results on winter annuals, treat when weeds are in an early growth stage (below 6 inches in height) aller most have germinated. For best results on tall fescue, treat when fescue is in or beyond the 4 to 6-leaf stage.

Weeds Controlled

Rale recommendations for control or suppression of winter annuals and tail fescue are listed below.

Apply the recommended rates of this product in 10 to 25 gallons at water per acre plus a surfactant such as a non-ionic surtactant containing 80% or greater aclive ingredient. Use of this producl without surfactant in reduced herbicide performance. Refer to the "Mixing and Application Instructions" section of this label and the surfactant manufacturer label for more information.

Weeds Controlled or Suppressed ı

Note: C = Controlled; S = Suppressed

	Rate Fluid Ounces Per Acre					
Weed SDecles	6	9	12	18	24	48
Barley, little *Hordeum ousilJum*	S	C	C	C	C	C
Bedstraw, calchweed *Galium anarine*	S	C	C	C	C	C
Bluegrass, annual - *Poa annua*	S	C	C	C	C	C
Chervil *Chaeronhlfflum tainturieri*	S	C	C	C	C	C
Chickweed, common *Stel/aria media*	S	C	C	C	C	
Clover, crimson *Trifolium incarnatum*	▪	S	S	C	C	C
Clover, large hop *Trifolium cam-nestre*	•	S	S	C	C	C
Speedwell, corn *Veronica arvensis*	S	C	C	C	C	C
Fescue, tall *Festuca anmdinacea*	•	▪	•	•	S	S
Geranium, Carolina *Geranium carolinianum*	•	▪	S	S	C	C
Henbit *Lamium amnlexicaule*	•	S	C	C	C	C
Ryegrass, Italian *Lolium multitlorum*	▪	▪	S	C	C	C
Vetch, common *Vicia sativa*	▪	▪	S	C	C	C

IThese rates apply only to sites where an established competitive turf is present.

Release Of Actively Growing Bermudagrass

NOTE: Use only on sites where bahiagrass or bermudagrass are desired for ground cover and some temporary Injury or yellowing of the grasses can be tolerated.

"Weeds

Johnsongrass is controlled at the higher rate.
,"Suppression at the higher rate only.

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment but regrowth will occur under moist conditions. Repeat applications the same season are not recommended, since severe injury may result.

Bahiagrass Seedhead and Vegetative Suppression

When applied as directed in the "Noncrop Sites" section in this label, product will provide significant Inhibition of seedhead emergence and suppress vegetative growth for a period of approximately 45 days with single applications and approximately 120 days sequential applications.

Apply this product 1 to 2 weeks after fun green-up of bahiagrass or after bahiagrass has been mowed to a uniform height of 3 to 4 inches. Applications must be made prior to seedhead emergence. Apply 5 fluid ounces per acre of product in 101025 gallons of water per acre, plus a surfactant such as a non-ionic surfactant containing 80% or greater active ingredient. Use of this product without surfactant will result in reduced herbicide performance. Refer to the "Mixing and Application Instructions" section of this label and the surfactant manufacturer label for more information.

applications of this product plus nonionic surfactant may be made at approximately 45-day to extend the period of seedhead and vegetative growth suppression. For continued vegetative suppression, sequential applications must be made prior to seedhead emergence.

Apply no more than 2 sequenllal applications per year. As a first sequential application, apply 3 fluid ounces of this product per acre plus nonionic surfactant. A second sequential application of 2 to 3 fluid ounces per acre plus nonionic surfactant may be made approximately 45 days after the last application.

Annual Grass Growth Suppression

For growth suppression of some annual grasses, such as annual ryegrass, wild barley and wild oats growing in coarse turf on roadsides or other Industrial areas, apply 3 to 4 ounces of this product 10 to 40 gallons of water per acre plus a surfactant such as a non-ionic surfactant conlaining 80% or greater active ingredient.. Use of product without surfactant will result in reduced herbicide performance. Refer to the "Mixing and Applicalion Instructions" section of this label and the surfactant manufacturer label for more Information. . Applications should be made when annual grasses are aclively growing and before the seedheads are in the boot stage of development. Treatments made after seedhead emergence may cause injury to Ihe desired grasses.

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. Otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and limitations of Remedies.

Warranty Disclaimer

Dow AgroSciences warrants thai this product conforms to the chemical description on the label and is reasonably lit for the purposes stated on the label when used in strict accordance the directions, subject to the inherent risks set forth below. Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR P\)RPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate risks associated use of this product. Crop injury, tack 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 labet, such as unfavorable temperatures, soil conditions. etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other malerials, the manner of application, or other factors. all of which are beyond the control of Dow AgroSciences or the seller. To the fullest extent permitted by law, all such risks shall be assumed by buyer.

from handling or use of this product unless Dow AgroSciences is promptly notilied of such los$ or damage In writing. To the fullest extent permitted by law, in no case shall Dow AgroSciences be liable for consequential or incidenlal damages or losses.

The terms of the Warranty Disclaimer above and this Limitation 01 Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow AgroSciences or the seller Is authorized to vary or exceed the terms of the Warranly Disclaimer or this Limitation of Remedies in any manner.

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Dow AgroSciences LLC • Indianapolis. IN 46268 U.S.A.

Label Code: 002-148-004
Replaces 002-148-003
LOES Number: 010-01471

EPA-accepted 07/13/06

Revisions:

1. Revised marketing claims to remove pine plantations and add grazed areas on these sites
2. Added/revised surlactant instructions
3. Revised nonionic surtactant instructions to 80% active
4. Revised use site text under Aquatic and other Noncrop Sites

MATERIAL

Dow

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Rodeo' Herbicide

COMPANY IDENTIFICATION:
Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268-1189

2, COMPOSITIONIINFORMATION ON INGREDIENTS:

Glyphosate IPA: N-(phosphono-methyl) glycine,Isopropylamine Salt	CAS # 038641-94-0	53.8%
Balance, Tolal		46.2%

13. HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW

Clear, pale yellow liquid. May cause eye irritation, Slightly toxic to aquatic organisms.
EMERGENCY PHONE NUMBER: 800-992-5994

4. FIRST AID:

EYE: Flush eyes thoroughly with water for several minutes. Remove contact lenses after initial 1-2 minutes and continue fiushing for several additional minutes. If effecls occur, consult a physician, preferably an ophthalmologist.

SKIN: Wash skin with plenty of water.

INGESTION: No emergency medical treatment necessary.

INHALATION: Remove person to fresh air; if effects occur, consult a physician,

NOTE TO PHYSICIAN: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the palient.

5. FIRE FIGHTING MEASURES:

FLASH POINT: >214°F (>101°C)
METHOD USED: Setaflash

FLAMMABLE LIMITS:
LFL: Not applicable
UFL: Not applicable

EXTINGUISHING MEDIA: Foam, C02, Dry Chemical

FIRE AND EXPLOSION HAZARDS: Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination. Toxic irritating gases may be formed under fire conditions.

FIRE-FIGHTING EQUIPMENT: Use positive-pressure, self-contained breathing apparatus and full protective eqUipment.

6. ACCIDENTAL RELEASE MEASURES:

ACTION TO TAKE FOR SPILLS: Absorb small spills with an inert absorbent material such as Hazorb, Zorball, sand, or dirt. Report large spills to Dow AgroSciences on 800-1992-5994.

17. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing vapors and spray Handle concentrate in ventilated area. Wash thoroughly with soap and water after handling and before eating, chewing gum, using tobacco, using the toilet or smoking. Keep from food, feedstuffs, and water supplies. Store in originai conlainer with the lid tightly closed. Store above 10°F (-12°C) to keep from crystallizing.

la. EXPOSURE CONTROLS/PERSONAL PROTECTION:

These precautions are suggested for conditions where the potential for exposure exists. Emergency conditions may require additional precautions.

EXPOSURE GUIDELINES: None established

ENGINEERING CONTROLS: Good general ventilation should be sufficient for most condilions. Local exhaust ventilation may be necessary for some operations.

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

EYE/FACE PROTECTION: Use safety glasses.

SKIN PROTECTION: No precautions other than clean body-covering clolhing should be needed.

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Dow

9. PHYSICAL AND CHEMICAL PROPERTIES:

10. STABILITY AND REACTIVITY:

LC_{50} for rainbow trout *10ncorhvnchus mykiss)* is *>2500 mglL.*
Acute immobilization in water flea *!Daphnia magna!* is *918 mglL.*
Material is practically non-toxic to birds on an acute basis (LD" is >2000 *mg/kg).*
Acute oral LD,o in bobwhite *IColinus virginianus!* is >2000 *mg/kg.*
The LC_{50} in earthworm Eisenia foetida is >1000 *mg/kg.*
Acute contact LD,o in honey bee *lApis mel/itera!* is >100 µg/bee.
Acute oral LD,o in honey bee *lApis meffifera!* is >100 µg/bee.
Growth inhibition EC,o in green alga *ISelenastrum capricornutum!* is 127 *mglL.*
Growth inhibition EC,o in duckweed *ILemna sp.)* is 24.4 *mglL.*

13. DISPOSAL CONSIDERATIONS:

DISPOSAL METHOD: If was t es an dl or can t alners canna t be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities.

50

Dow

Emergency Phone: 800-992-5994
Dow AgroSclences LLC
Indianapolis, IN 46268

Effective Date: 3/23/04
Product Code: 84825
MSDS: 006694

with applicable regulations.

If the material as supplied becomes a waste, follow all applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION:

U.S. DEPARTMENT OF TRANSPORTATION (DOT) INFORMATION:

For all package sizes and modes of transportation:
This material is not regulated for transport.

115. REGULATORY INFORMATION:

NOTICE: The information herein is presented in good faith and beiieved to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, slate or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations.

U.S. REGULATIONS

SARA 313 INFORMATION: To the best of our knowledge, this product contains no chemical subject to SARA Title iii Section 313 supplier notification requirements.

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title iii) and is considered, under applicable definitions, to meet the foliowing categories:

Not to have met any hazard category

TOXIC SUBSTANCES CONTROL ACT (TSCA): Ali ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

STATE RIGHT-TO-KNOW: This product is not known to contain any substances sUbject to the disclosure requirements of

New Jersey
Pennsylvania

OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, or SUPERFUND): To the best of our knowledge, this product contains no chemical sUbject to reporting under CERCLA.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

CATEGORY	RATING
Health	1
Flammability	1
Reactivity	0

116. OTHER

MSDS STATUS: Revised Sections: 3,4,11,12,13,14 & 15
Reference: DR-0361-8028
Replaces MSDS Dated: 1/12/00
Document Code: D03-148-002
Replaces Document Code: D03-148-001

The Information Herein Is Given In Good Faith, But No Warranty, Express Or Implied, Is Made. Consult Dow AgroSciences For Further Information.

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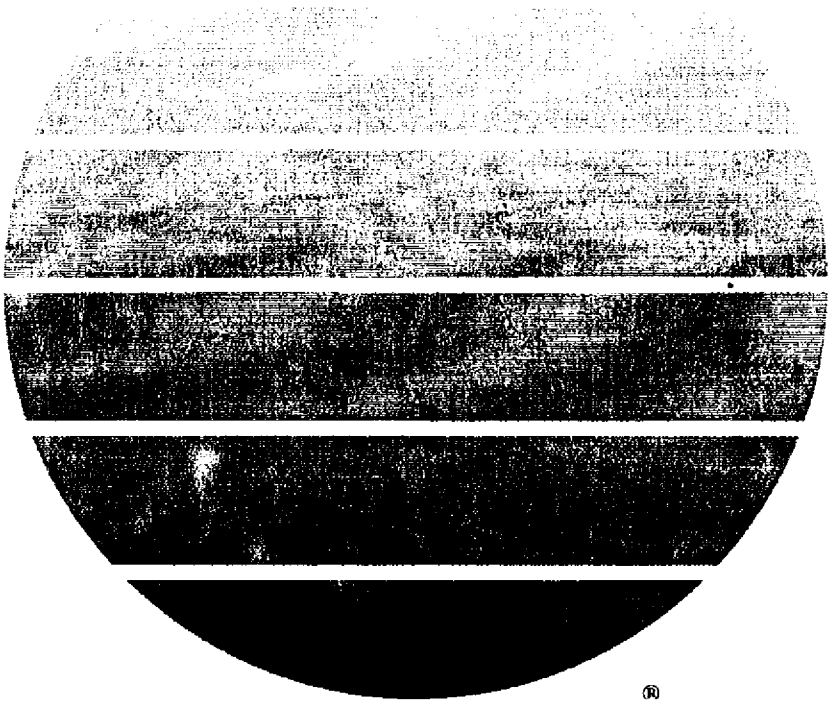
DuPont™ Telar®DF

herbicide



".....A Growing Partnership With Nature"

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID

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

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 for further 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 1-800-441-3637 for emergency medical treatment information.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION! Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water handling.

ENVIRONMENTAL HAZARDS

Do not directly to water, or to areas where surface water is present, or to intertidal areas below the mean high waler mark. Do nol contaminate water when disposing of equipment washwaters.

By Weight

-triazin-

75%

25%

100%

PESTICIDE HANDLING

Calibrate sprayers only with clean water away from the well site.

Make scheduled checks of spray equipment.

Assure accurate measurement of pesticides by all operation employees.

Mix only enough product for the job at hand.

Avoid over-filling of spray tank.

Do nol discharge excess material on the soil at a single spot in the field/grove or mixing/loading station.

Dilute and agitate excess solution and apply at labeled rates/uses.

Avoid storage of pesticides near well sites.

When triple rinsing the pesticide container, be sure to add tile rinsale to the spray mix.

way

this product through any type of il"rigation system.

NON-CROP WEED CONTROL

GENERAL INFORMATION

TELAR® DF herbicide is a dry flowable that is mixed in water and applied as a spray to control many annual, biennial. and perennial broadleafweeds 011 non-crop, industrial sites such as airports. military installations, fence rows, roadsides and associated rights-of-way, lumberyards, petroleum tank farms, pipeline and utility rights-of-\vay. pumping installations. railroads, storage areas, plant sites and other similar areas including governmental and private lands.

TELAR® OF is noncorrosive, nonflammable. nonvolatile and does not freeze.

TELAR® DF can be applied as a preemergence or postemergence treatment. For best results, apply TELAR® Of before or during stages of weed growth. The degree and duration of control may depend on the following:

- use rate
- weed spectrum and size at application
- environmental conditions and following treatment

Environmental Conditions and Biological Activity

TELAR® DF is absorbed by both the roots and foliage of plants, rapidly inhibiting the growth of susceptible weeds. Two to 3 weeks after application to weeds. leaf growth slows, and the growing points turn reddish-purple. Within 4 to 6 weeks of application,leafvcins and leaves become discolored, and the growing points subsequently die.

Wa1111, moist conditions following treatment enhance the effectiveness ofTELAR® DF since moisture carries TELAR® OF into weed roots. preventing roots from developing. Cold, dry conditions delay the activity ofTELAR® OF. Weeds hardened otfby cold weather or drought stress are less susceptible to TELAR®DF.

Biotypes of certain weeds listed on this label are resistant to TELAR® DF and other herbicides with the same mode of action, even at exaggerated application rates. Biotypes are naturally occurring individuals of a species identical in appearance but with slightly different genetic compositions; the mode of action of a herbicide is the chemical interaction that interrupts a biological process necessary for plant growth and development.

(fweed control is unsatisfactory, it may be necessary to respray problem areas using a product with a different mode of action, such as postemergence broadleaf *andlor* grass herbicides. If resistant weed biotypes such as kochia and Russian thistle are suspected or known to be present, consider using another herbicide treatment or adjust the use rate of the TELAR® DF tank-mix partner to help control these biotypcs. Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative herbicide recommendations available in your area.

It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes.

INTEGRATED PEST MANAGEMENT

DuPont recommends the use ofIntegrated Pest Management (lPM) programs to control pests. This product may be used as part ofan Integrated Pest Management (IPM) program which can include biological, culturaL and genetic practices aimed at preventing economic pest damage. Application of this product should be based on IPM principles and practices including field scouting or other detection methods, COiTect target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to detenninc appropriate action treatment threshold levels for treating specifie pest/crop in your area.

APPLICATION INFORMATION

NON-CROp, INDUSTRIAL SITES

TELAR® OF is recommended for control of many almual, biennial, and perennial broadleafweeds in non-crop, industrial areas.

Application Timing

Apply TELAR® OF as a preemergent or early postemergent spray when weeds are actively germinating or growing.

lower rates, TELAR® DF provides short tenn control of weeds listed; when applied at higher rates, weed control is increased.

1/4 to /12 az per acre

Annual sowthistle	Mayweed
Blue mustard	Miners lettuce
Common chickweed	Pineapple-weed
Common speedwell	Prostrate pigweed
Conical catchfly	Redroot pigweed
Fiddleneck	Shepherd's-pursc
Field pcnnycress	Smooth pigweed
Flixweed*	Treacle mustard
Hempnettle	Tumble mustard (Jim Hill)
Hcnbit	Wild mustard
London rocket	

1/2 to 1 oz per acre

Boullcingbet	Groundsel
Bur heakchervil	Marestail
Buttercup	Musk thistle
Canada thistle*t	Sweet clover*
Common lambsquarters	Tumble mustard
Common sunflower	Turkey mullein*
Common speedwell*	Whitetop (hoary cress)t
Dandelion*	Wild parsnip
Goldenrod	

* control only.

t Prebloom to bloom and fall roselle are recommended timings.

J to 3 oz per (lcre

Annual ryegrass (Loliul11 sppj'	Dyer's woad
Aster	Flixwccd
Bedstraw	foxtail (Setaria SpP)*
Black mustard	Horsetail (Equisetulll spp)
Bull thistle	Peppcrwced (perennial)
Burclovel'	Poison·hemlock
Canada thistle	Prostrate knotweed*
Common cinquefoil	Puncturevine
Common mallow	Red clovel'
Common mullein	Russian knapwcedt
Common ragweed*	Scotch thistle
Common tansy	Scouringrush (Equisetum spp)
Common teasel	Tansymustard
COlllmon yarrow	White clover
Corn spurry	Wild carrot
Cow cockle	Wild garlic/wild onion
Curly dock	Yellow starthistle*

* control only.

t Prcbloom 10 bloom and fall rosettc arc recommended timings.

Specific Weed Problems

Dalmation Toadflax: Apply 2 to 3 ounces of TELAR® DF per acre as a high volume foliar spray using a minimum of 24 gallons of water per acre. Use of a surfactant, as directed on this label, is recommended.

Kochia, Russian Thistle, and Prickly Lettuce: Tank TELAR® Df with herbicides with different modes of action and apply postemergence before weeds form mature seed.

DF Krovar® I OF herbicide for preemergence to early postemergence treatments. Tank mix TELAR® OF with dicamba, 2,4-0, or glyphosate for postemergent applications. When tank mixing TELAR® DF, use the 1110st restrictive label limitations for product used in the

Do not tank mix TELAR® DF with DuPont™ HYVAR® X-L herbicide.

Grass Replant Intervals

Following an application of TELAR® DF to non·crop areas, the treated sites may be replanted with various species of grasses at the minimum intervals recommended below.

For soils with a pH of 7.5 or less observe the following replant intervals:

Species	TELAR® DF Rate oz/acI'c	Replant Interval (Mouths)
Brome, Meadow	112-1	I
	1-2	2
Brome, Smooth	1/2-1	2
	1-2	4
Fescue. Alta	1/2	2
	I	3
	2	5
Fescue, Sheep	1/2-1	2
	1-2	4
Foxtail, Meadow	1/2	3
	1	4
	2	6
Green Needle	1/2-2	I
Orchardgrass	1/2	2
	1-2	3
Russian Wildrye	1/2-2	I
Swithgrass	1/2-2	3
Timothy	1/2	2
	I	4
	2	6
Wheatgrass, Western	1/2	I
	I	2
	2	4

Species	Rate oz/acre	Replant Interval (Montbs)
Alkali Sacaton	112	1
	I	3
	2	>3
Bluestern, Big Blue	112	3
Breme, Mountain	112	I
	I	2
	2	>3
Gramma. Blue	112	1
	I	2
	2	>3
Gramma. Sideoats	1-2	>3
Switchgrass	1-2	>3
Bluebunch	1 113	1
Wheatgrass, Crested	213	I
	1 113	1
Wheatgrass, Intermediate	1113	1
Wheatgrass, Slender	1 113	1
Wheatgrass, Siberian	1 113	1
Wheatgrass, Strcambank	1 113	1
Wheatgrass, Thickspike	112-2	I
Wheatgrass, Western	112	I
	I	2
	2	4

The recommended minimum intervals are for applications made in the Spring to early Summer. Because TELAR® DF degradation is slowed by cold or frozen soils, applications made in the late Summer or early Fall should consider the intervals as beginning in the Spring following treatment.

Testing has indicated that there is a considerable variation in response among the species of grasses when seeded onto areas treated with TELAR® DF. If species other than those listed above are to be planted into areas treated with TELAR® OF a field bioassay should be performed, or previous experiencc may be used to determinc the feasibility of replanting treated sites.

INDUSTRIAL TURF (Unimproved Only)

TELAR® OF is recommended to control weeds on unimproved industrial turf. on roadsides, and on other non-crop sites.

Application Timing

Apply TELAR® DF when desirable grasses are well established, as premature treatment may result in top kill and stand reduction. For best results, treat turf at green-up.

Weeds Controlled

Refer to Weeds Controlled section under NON-CROP for rates to control various weeds. When applied at lower rates, TELAR® DF provides short term control of weeds listed; when applied at higher rates, weed control is increased.

TELAR® OF may be used on the following grasses when applied at the use rates shown below.

Note: The higher rates and/or the addition of surfactant may result in temporary chlorosis of desirable grasses.

1/4/010z

Bahiagrass
Bermudagrass
Blue grama
Bluegrass
Bromegrasses
(meadow, smooth)
Orchardgrass
Wheatgrasses
(crested, intermediate pubescent. slender. streambank. tall, thick spike. western)

1/20z

Bentgrass
Bluestems
(big, little, plains, sand, ww spar)
Buffalograss
Galleta
Green necdlegrass
Green sprangetop
Indiangrass
Indian ricegrass
Kleingrass
Lavegrasses
(sand, weeping)
Prairie sandreed
Sand dropseed
Sheep fescue
Sideoats grama
Switchgrass
Wildrye grasses
(beardless. Russian)

114/01/2 oz

Fescue
.Smooth brome

when

DuPont™ mix sprayers

v

result

kill TELAR®

NON-CROP

viscosity v

40 Mix 1/4

in

labels

manual

"Embark" ***Only)***

v

(except

mix

bahiagrass

least

year

treated may

weeds tank

3-oz

(at

rate)

turf injury.

spray (i.e.

for

low

(except

spray

applications

boom,

2.

* any

label

(except

turf,

how

DRIFT

- Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

Pressure - Use the lower spray recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE,

Nozzle l'yIJe- 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.

BOOM HEIGHT

Setting the boom at the lowesllabeled height (if specified) which provides uniform coverage reduces the exposure of droplets to evaporation and wind. For ground equipment, the boom should remain level with the crop and have minimal bounce.

WIND

Drift potential increases at wind speeds of less than 3 mph (due to variable direction and inversion potential) or more than 10 mph. However. many factors, including droplet size and equipment type determine drift potential at any given wind speed. AVOID APPLICATIONS DURING GUSTY OR WINDLESS CONDITIONS.

Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they effect spray drift,

TEMPERATURE AND HUMIDITY

When making applications in and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

SURFACE TEMPERATURE INVERSIONS

Drift potential is high during a surface temperature inversion. Surface inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Surface inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form 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 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 a surface inversion, while smoke that *moves* upward and rapidly dissipates indicates good velikal air mixing.

Injury or
from

by

by

may

by burning. If burned, stay out of
smoke.

NOTICE **TO** BUYER: Purchase of this material does not
as confer any rights under patents of countries outside of the
United States.

The DuPollt Oval Logo, DuPont™, TELAR®, HYVAR®
and KROVAR® trademarks or registered trademarks of
DF E. L duPont de Nemours and Company

"Embark" is a registered trademark of PBI-Gordon Corp.
"Nulra-sol" is a product of Thonuls G. Kilfoil Company, Inc. San Bruno, Ca.
"Tank-Aid" is a product of Comhelt Chemical Company.
"Karmex" is a registered trademark of GI-iilin LL,C

walks,
areas.
or

SL - 872 121702 12-11-02

associated with the use of this product. Such risks arise from weather conditions. soil factors, off target movement, uneallvcn· tional farming techniques, presence of other materials. the manner oruse or application, or other unknown factors. all of which are beyond the control of DuPont. These risks can cause: ineffectiveness of the product; crop injury, or; injury to non-target crops or plants.

DuPont does not agree to be an insurer of these risks. WHEN YOU BUY OR USE THIS PRODUCT, YOU AGREE TO ACCEPT THESE RISKS.

DuPont warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for the purpose stated in the Directions for Usc, subject to the inherent risks described above, when used in accordance with the Directions for Use under normal conditions.

DUPONT MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR OF MERCHAN'IABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

IN NO EVENT SHALL DUPONT OR SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. BUYER'S OR USER'S BARGAINED-FOR EXPECTATION IS CROP PROTECTION. THE EXCLUSIVE REMEDY OF THE USER OR BUYER AND THE EXCLUSIVE LIABILITY OF DUPONT OR SELLER, FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY OR CONTRACT, NEGLIGENCE, TORT OR STRICT LIABILITY), WHETHER FROM FAILURE TO PERFORM OR INH'RY TO CROPS OR OTHER PLANTS, AND RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF TilE PURCHASE PRICE OF THE PRODUCT, OR AT THE ELECTION OF DUPONT OR SELLER, THE REPLACEMENT OF THE PRODUCT.

DuPont or its Ag Retailer must have prompt notice of any claim so that un immediate inspection of buy 's or user's growing crops can be made. Buyer and all users shall promptly notify DuPont or a DuPont Ag Retailer of any claims, \w·hether based on contract, negligence, strict liability, other tort or otherwise or be barred from any remedy.

This Limitation of Warranty and Liability may not be amended by any oral or written agreement.

For product information call: 1-888-6-DUPONT

Internet address: http://cropprotection.dupont.com/

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EPA

DUPONT™

EPA

fixed

Mayweed**
Blue Miners lettuce**

Orchardgrass**

Field pennycress
Bermudagrass Flixweed* mustard**
Blue

Bromegrasses

Groundsel**

Lovegrass
Fescue* grama Canada thistle*† Musk

Wildrye

(hoary cress)†

types

*
* California.

- 200 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. 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 Surface Temperature Inversions sections of this label.

Controlling Droplet Size - General Techniques

Volume· Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

Pressure - Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. WIlEN HIGHER FLOW RATES ARE NEEDED. USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.

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.

Controlling Aircraft

Number of Nozzles - Use the minimum number of nozzles with the highest flow rate that provide unifonn coverage.

NozzJe Orientation· Orienting nozzles sothat the spray is emitted backwards, parallel to the airstream will produce larger droplets than other orientations.

Nozzle Type - Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.

800M LENGTH AND HEIGHT

Boom Length (aircraft) - The boom length should not exceed *3/4* of the wing length, using shorter booms decreases drift potential. For helicopters use a boom length and position that prevents droplets from entering the rotor vortices.

Boom Height (aircraft) - Application more than 10 ft above the canopy increases the potential for spray drift.

Boom Height (ground) Setting the boom at the lowest height which provides uniform coverage reduces the exposure of droplets to evaporation and wind. The boom should remain level with the crop and have minimal bounce.

WIND

Drift potential increases at wind speeds of less than 3 mph (due to variable direction and inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type detennine drift potential at any given wind speed. AVOID APPLICATIONS DURING GUSTY OR WINDLESS CONDITIONS.

Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they effect spray drift.

applications

of the user at the time of pesticide application.

(Replaces H-6440&)

verify

R-274 033103 09-11-02

The MSDS format adheres to the standards and regulatory requirements of the United States and may not meet regulatory requirements in other countries.

"DuPont" "TELAR" DF HERBICIDE - FOR USE IN STATES OTHER THAN CA
M0000385 Revised 13-SEP-2007

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

"TELAR" **is a registered trademark of DuPont.**

"DuPont" is a trademark of DuPont.

Corporate MSDS Number : DU008091

Tradenames and Synonyms

CHLORSULFURON 75XP

Company Identification

MANUFACTURER/DISTRIBUTOR
DuPont
1007 Market Street
Wilmington, DE 19898

PHONE. NUMBERS

Product Information	1-800-441-7515 (outside the U.S. 302-774-1000)
Transport Emergency	CHEMTREC 1-800-424-9300{outside.U.S. 703-527-3887)
Medical Emergency	1-800-441-3637 (outside the U.S. 302-774-1000)

COMPOSITION/INFORMATION ON INGREDIENTS

Components

Material	**CAS Number**	%
'CHLORSULFURON (2-CHLORO-N-[[4-METHOXY-6-METHYL-1,3,5-TRIAZIN-. 2-YL)AMINO]CARBONYLjBENZENESULFONAMIDE)	64902-72-3	75
INERT INGREDIENTS		**2S**

*** Disclosure as a toxic chemical is required under Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.**

HAZARDS IDENTIFICATION

Emergency Overview

CAUTION! Harmful if absorbed through skin. Causes moderate *eye* irritation. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling.

Potential Health Effects

Based on animal data, Telar DF Herbicide may cause eye irritation with discomfort, tearing, or blurring of vision.

Based on animal data, Telar DF Herbicide may cause skin irritation with discomfort or rash.

Carcinogenicity Information

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARe, NTP, OSHA or ACGIH as a carcinogen.

FIRST AID MEASURES

First Aid

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

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 for further treatment advice.

IF INHALED: No specific intervention is indicated as the product is not likely to be hazardous by inhalation. Consult a physician if necessary.

IF INGESTED: No specific intervention is indicated, as the product is not likely to be hazardous by ingestion. Consult a physician if necessary.

Have the product container or label with you when calling a poison contrr)l center or doctor, or going for treatment. You may also contact 1-800-441-3637 for emergency medical treatment information.

FIRE FIGHTING MEASURES

Flammable properties

The material poses no explosion hazard in granular form.

Like most organic powders or crystals, under severe dusting conditions, this material may form explosive mixtures in air.

Extinguishing Media

Water Spray, Foam, Dry Chemical, C02.

Fire Fighting Instructions

Wear self-contained breathing apparatus. Use water spray. Cool tank/container with water spray.

If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated.

ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Emergency Response - Chemical resistant coveralls, waterproof gloves, waterproof boots and face/eye protection. If dusting occurs, use NIOSH approved respirator protection.

Initial Containment

Dike spill. Prevent material from entering sewers, waterways, or low areas.

Spill Clean Up

Shovel or sweep up.

HANDLING AND STORAGE

Handling (Personnel)

Avoid breathing dust. Avoid contact with eyes, skin, or clothing. Wash thoroughly after handling. Do not store or consume food, drink or use tobacco in areas where they may become contaminated with this material.

(HANDLING AND STORAGE - Continued)

USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Handling (Physical Aspects)

Keep away from heat, sparks and flames.

Storage

Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Use only with adequate ventilation.

Personal Protective Equipment

For non-agricultural use.

No PPE is specified; however, avoid contact with skin, eyes, and clothing.

Exposure Guidelines

Applicable Exposure Limits

CHLORSULFURON		
PEL	(OSHA)	**None Established**
TLV	(ACGIH)	**None Established**
AEL * (DuPont)		**10 mg!m3, 8 & 12 Hr. TWA**

*** AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits Which are lower than the AEL are in effect. such limits shall take precedence.**

PHYSICAL AND CHEMICAL PROPERTIES

Physical Data

SolUbility in Water	**Dispersible**
pH	**4.5 @ 1% suspension**
Odor	**None**
Form	**Solid**
Color	Tan
Specific Gravity	0.69 @ 25C (77F)
Density	0.64-0.74 g/mL

STABILITY AND REACTIVITY

Chemical Stability

Stable at normal temperatures and storage conditions.

Incompatibility with Other Materials

None reasonably foreseeable.

Polymerization

Polymerization will not occur.

TOXICOLOGICAL INFORMATION

Animal Data

Talar DF Herbicide
Oral LDSO: > 2000 mg/kg in rats
Skin Absorption LD50: > 5000 mg/kg in rats
(Slightly toxic)

Talar DF Herbicide is a mild reversible skin irritant, and a very mild eye irritant, and is not a skin sensitizer in animals.

Chlorsulfuron
Inhalation 4 hour LeSO: > 5.5 mg/L in rats
(Very low toxicity by inhalation)

Toxicity described in animals from the oral administration of a single dose of Chlorsulfuron include lung changes, weakness and other nonspecific effects.

The effects in animals from repeated inhalation exposures to Chlorsulfuron include decreased weight gain, reversible kidney and spleen effects, and bone marrow changes.

Repeated oral dosing caused decreased weight gain, and hematological and clinical chemical changes. Long-term dosing (500 ppm) resulted in decreased body weight gain, and slight hematological changes.

Animal testing indicates that Chlorsulfuron, the active ingredient, did not show reproductive or carcinogenic effects. Developmental toxicity has been observed but only at maternally toxic dose levels.

Chlorsulfuron did not produce genetic damage in bacterial or mammalian cell cultures. It did not produce heritable genetic damage.

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(TRANSPORTATION INFORMATION - Continued)

3077) under special provision SP146 (DOT), 909 (IMDG) or A97 (lATA). The following description would apply using anyone of the aforementioned special provisions:

UN 3077, Environmentally Hazardous Substances, solid, n.o.s., (Chlorsulfuron), 9, PG III

REGULATORY INFORMATION

U.S. Federal Regulations

TITLE III HAZARD CLASSIFICATIONS SECTIONS 311, 312

Acute	Yes
Chronic	No
Fire	No
Reactivity	No
Pressure	No

In the United States this product is regulated by the US Environmental Protection Agency under the Federal Insecticide, Fungicide and Rodenticide Act. It is a violation of federal law to use this product in a manner inconsistent with its labeling.

EPA Reg. No. 352-522

OTHER INFORMATION

NFPA, NPCA-HMIS

NFPA Rating	
Health	1
Flammability	1
Reactivity	0

NPCA-HMIS Rating	
Health	1
Flammability	1
Reactivity	0

Personal Protection rating to be supplied by user depending on use conditions.

The data *in* this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Responsibility for MSDS	DuPont Crop Protection Wilmington, DE 19898
Telephone	1-888-638-7668

format

%

*

HAZARDS IDENTIFICATION

Emergency Overview

CAUTIONl Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling.

Potential Health Effects

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Based on animal data, Talar DF Herbicide may cause skin irritation with discomfort or rash.

Carcinogenicity Information

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARe. NTP, OSHA or ACGIH as a carcinogen.

FIRST AID MEASURES

First Aid

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

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 for further treatment advice.

IF INHALED: No specific intervention is indicated, as the product is not likely to be hazardous by inhalation. Consult a physician if necessary.

IF INGESTED: No specific intervention is indicated, as the product is not likely to be hazardous by ingestion. Consult a physician if necessary.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-441-3637 for emergency medical treatment information.

CO2.

PERSONAL

- Chemical resistant coveralls, waterproof gloves, waterproof boots and face/eye protection. If dusting occurs, use NIOSH approved respirator protection.

Initial Containment

Dike spill. Prevent material from entering sewers, waterways, or low areas.

Spill Clean Up

Shovel or sweep up.

HANDLING AND STORAGE

Handling (Personnel)

Avoid breathing dust. Avoid contact with eyes, skin, or clothing. Wash thoroughly after handling. Do not store or consume food, drink or use tobacco in areas where they may become contaminated with this material.

(HANDLING AND STORAGE - Continued)

USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Handling (Physical Aspects)

Keep away from heat, sparks and flames.

Storage

Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Use only with adequate ventilation.

Personal Protective Equipment

For non-agricultural use.

No PPE is specified; however, avoid contact with skin, eyes, and clothing.

Exposure Guidelines

Applicaple Exposure Limits

CHLORSULFURON

PEL	(OSHA)	None Established
TLV	(ACGIH)	None Established
AEL *	{DuPont}	10 mg/m3, 8 & 12 Hr. TWA

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

PHYSICAL AND CHEMICAL PROPERTIES

Physical Data

Solubility in Water	Dispersible
pH	4.5 @ 1% suspension
Odor	None
Form	Solid
Color	Tan
Specific Gravity	0.69 @ 25C (77F)
Density	0.64-0.74 g/mL

STABILITY AND REACTIVITY

Chemical Stability

Stable at normal temperatures and storage conditions.

Incompatibility with Other Materials

None reasonably foreseeable.

Polymerization

Polymerization will not occur.

TOXICOLOGICAL INFORMATION

Animal Data

Telar DF Herbicide
Oral LDSO: > 2000 mg/kg in rats
Skin Absorption LDSO: > 5000 mg/kg in rats
(Slightly toxic)

Telar DF Herbicide is a mild reversible skin irritant, and a very mild eye irritant, and is not a skin sensitizer in animals.

Chlorsulfuron
Inhalation 4 hour LeSO: > 5.5 mg/L in rats
(Very low toxicity by inhalation)

Toxicity described in animals from the oral administration of a single dose of Chlorsulfuron include lung changes, weakness and other nonspecific effects.

The effects in animals from repeated inhalation exposures to Chlorsulfuron include decreased weight gain, reversible kidney and spleen effects, and bone marrow changes.

Repeated oral dosing caused decreased weight gain, and hematological and clinical chemical changes. Long-term dosing (500 ppm) resulted in decreased body weight gain, and slight hematological changes.

Animal testing indicates that Chlorsulfuron, the active ingredient, did not show reproductive or carcinogenic effects. Developmental toxicity has been observed but only at maternally toxic dose levels.

Chlorsulfuron did not produce genetic damage in bacterial or mammalian cell cultures. It did not produce heritable genetic damag., .

ECOLOGICAL INFORMATION

Ecotoxicological Information

AQUATIC TOXICITY:
CHLORSULFURON
96 hour LeSO Sheepshead minnow: > 980 mg/L.
96 hour LeSO - Bluegill sunfish: > 128 ppm.
96 hour LeSD - Rainbow trout: > 122 ppm.
48 hour ECSO - Daphnia magna: > 112 ppm.
AVIAN TOXICITY:
CHLORSULFURON
Acute Oral LDSO - Mallard Duck: > 5000 mg/kg.
Acute Oral LDSO Bobwhite Quail: > 5000 mg/kg > 112 ppm.

DISPOSAL CONSIDERATIONS

Waste Disposal

Do not contaminate water Bupply, food or feed by storage or disposal.
Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.

ENVIRONMENTAL HAZARDS
Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water" mark. Do not contaminate water when disposing of equipment washwaters.

Container Disposal

Triple rinse (or equivalent) the container. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

TRANSPORTATION INFORMATION

Shipping Information

DOT: Not Regulated by 49 CFR (DOT)

IMO/IMDG: Not Regulated by IMO/IMDG

lATA: Not regulated by lATA

ADDITIONAL INFORMATION; Although material is not regulated by the DOT!IMO/IATA, it may be transported as a class 9 (UN 3077) under special provision Sp146 (DOT), 909 (IMDG) or A97 (IATA). The following description would apply using anyone

(TRANSPORTATION INFORMATION **Continued)**

of the aforementioned special provisions:

UN 3077, Environmentally hazardous substances, solid, n.o.s., (Chlorsulfuron), 9, PG III

REGULATORY INFORMATION

U.S. Federal Regulations

TITLE **III** HAZARD CLASSIFICATIONS SECTIONS 311, 312

Acute	**Yes**
Chronic	**No**
Fire	**No**
Reactivity	**No**
Pressure	**No**

In the United States this product is regulated by the us Environmental Protection Agency under the Federal Insecticide, Fungicide and Rodenticide Act. It is a violation of federal law to use this product in a manner inconsistent with its labeling.

EPA Reg. No. 352-522

State Regulations (U.S.)

CALIFORNIA PROPOSITION 65:
THIS pRODUCT CONTAINS CHLORSULFURON, A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

OTHER INFORMATION

NFPA, NPCA-HMIS

NFPA Rating	
Health	1
Flammability	1
Reactivity	0

NPCA-HMIS Rating	
Health	1
Flammability	1
Reactivity	0

Personal Protection rating to be supplied by user depending on use conditions.

<Continued)

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Responsibility for MSDS:	DuPont Crop Protection
Address	Wilmington, DE 19898
Telephone	1-888-638-7668

# Indicates updated section.

This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained.

End of MSDS

Specimen Label

RESTRICTED USE PESTICIDE

May Injure (Phylotoxic) Susceptible, Non-Target Plants. For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for Ihose uses covered by the Certilied Applicator's certification. Commercial certified applicators must also ensure that all persons involved in Ihese activities are informed of the precautionary statements.

Dow AgroSciences S

Tordon® 22K

Specialty Herbicide

of Dow AgroSciences LLC

For control of susceptible broadleaf weeds, woody plants and vines on rangeland and permanent grass pastures, fallow cropland, Conservation Reserve Program (CRP) acres, non-crop areas including forest planting sites, industrial manufacturing sites, rights-of-way such as electrical power lines, communication lines, pipelines, roadsides, railroads, and wildlife openings in forest and non-crop areas

Active Ingredient;	
picloram: 4-amino-3,5,6-trichloropicolinic acid, potassium sail	24.4%
Inert Ingredients	75.6%
TOlalIngredjents	100.0%

Acid Equivalent
picloram: 4-amino-3,5,6-trichloropicolinic acid· 21.1% - 2lb/gal

EPA Reg. No. 62719-6

Keep Out of Reach of Children

CAUTION PRECAUCION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do nol understand the label, lind someone to explain it to you in delai!.)

Precautionary Statements
Hazards to Humans and Domestic Animals

Causes Moderate Eye Irritation

Avoid contact wllh eyes or clothing. Prolonged or frequent repeated skin contact may cause allergic skin reactions in some individuals.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:
- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

Follow manufacturer's Instruclions for cleaning/maintaining PPE. If no such inslructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Controls

When handlers use closed systems, enclosed cabs, or aircraft in a manner Ihat meels the requirements lisled In the WPS (40 CFR 170.240(d)(4-6), the handler PPE requirements may be reduced or modified as specified in WPS.

User Safety Recommendations

Users should:
- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gels inside. Then wash thoroughly and put on clean clothing.
- Users should remove PPE immediately aller handling this product. Wash the outside of gloves before removing. As soon as possible, wash thorouahlv and chance into clean clolhina.

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 tor 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 emerQencv medical treatment information.

Environmental Hazards

This pesticide is toxic to some plants at very low concentrations. Non-targel plants may be adversely affected If pesticide Is allowed 10 from areas of applicalion. Do not apply directly to water, 10 areas where surface is present or 10 intertidal aroas below the mean high water mark. Do not contaminate waler when disposing of equipment washwaters. Do not contaminale water used for irrigation or domeslic purposes by cleaning of equipment or disposal of wastes. Do not allow run-off or spray 10 Contaminate wells, irrigalion ditches or any body of water used for irrigation or domestic purposes. Do not make applicalion when circumstances favor movement from Ireatment site.

Picloram is known to leach through soil into ground water under certain conditions as a result of agricultural use. Use at this chemical in areas where soils are permeable, particularly where Ihe water table is shallow, may result in ground water contamination.

Specimen Label Revised 06-23-05

drainage systems that drain to surface wator.

Note: Use In HawaII limited exclusivelY 10 Supplemental Labeling. See "General Use Precautions" for details.

Notice: Read the entire label. Use only according to label direcfions. Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies elsewhere on this label. If terms are unacceptable, return at once unopened.

In case of emergency endangering health or the environment Involving this product, call 1-800-992-5994. If you wish to obtain additional product information, visit our web at www.dowagro.com.

Agricullural Chemical: Do not ship or store with food, leeds, drugs or clothing.

Directions for Use

It is a violation 01 Federal law to use this product in a manner inconsistent with its labeling.
Read Direclions for Use carefully before applying.

Do not apply this product in a way that contacl we kers or other persons, either directly or through drill. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible Ior pesticide regulation.

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 Ior the protection *ot* agricuJlurai workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. II 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) at 12 hours.

PPE required for early entry to treated areas that is permilled under the Worker Protection Standard and that involves conlact with anything has been treated, such as plants, soil, or water, is:

- Coveralls
- Waterproof gloves
- Shoes plus socks

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, lorests, nurseries, or greenhouses.

Entry Restrictions for Non-WPS Uses: For applications on rangeland, permanent grass pastures, and non-cropland, do not enter or allow worker entry into treated areas until sprays have dried, unless applicator and other handler PPE is worn.

Storage and Disposal

Do not contaminate water, food, feed or fertilizer by storage or disposal. Open dumping is prohibited.
Storage: II this product is exposed to subfreezing temperatures, the active ingredienl may crystallize and sellle out of soluUon. Under these conditions the product should be warmed to at least 40°F and agitated well to dissolve any crystallized malerial prior to use.
Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on sile or at an approved waste disposal facility.
Container Disposal (Metal): Do not reuse container. Triple rinse (or equivalent). Puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local
Container Disposal (Plasllc): Do not reuse container. Triple rinse (or equivalent). Puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.
General: Consult federal, state or local disposal for approved alternative orocedures.

General Information

Use Tardon- 22K herbicide to noxious, invasive, or other broadleal weeds and listed woody plants and vines on rangeland and permanent grass pastures, fallow cropland, Conservation Reserve Program (CRP) acres, non-crop areas including forest planting sites, industrial manufacturing rights-of-way such as electrical power lines, communication pipelines, roadsides, railroadS, and wildlife openings in forest and non-crop areas.

This product Is NOT for sale or use in the San Luis Valley of Colorado.

Use Precautions and Restrictions

Use this product only as specified on this label or EPA-accepted Dow AgroSciences supplemenlallabellng. Observe any special use and application restrictions and limitations, including method 01 application and permissible areas of use as promulgated by slate or local authorities.

Use In Hawaii: In Hawaii, approved uses of Tordon 22K are limited to those described in Supplemental Labeling which may be obtained from your Dow AgroSciences representative or chemical dealer. Refer 10 this Supplemental Labeling for speciric use directions and precautions.

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Maximum Use Rates:

Non-cropland Areas: Total use of Tordon 22K, including retreatmenls or spol treatments, must not exceed 1.0 lb a.i. picloram (2 quarts) per acre per annual growing season on rights-of-way and other non-crop areas.

On forest sites, no more lhan 1.0 lb a.1. picloram (2 quarts) per acre may be within a period of 2 annual growing seasons.

- Rangeland and Permanent Orass Pastures: For control of noxious or invasive weeds as delined by federal, state, or local authorilies, do not apply more than 1.0 lb active ingredient (2 quarts of Tordon 22K) per acre per annual growing season as a broadcast treatment. Spot treatments may be applied at the equivalent broadcast rate of up to 1.0 lb active ingredient (2 quarts) per acre.

For control of other broadleaf weeds and woody plants, do not apply more than 0.5 lb active ingredlent (1 quart of Tordon 22K) per acre per annual growing season. Spot treatments may be applied at an equivalent broadcast rate of up to 1.0 lb active ingredient (2 quarts) per acre per annual growing season, but not more than 50% of an acre may be treated. Repeal treatments may be applied as necessary. but total use must not exceed the maximum amount specified.

Fallow Cropland (Not Rotated to Broadleaf Crops): Do not apply more than 0.25 lb a.i. picloram (1 pint) per acre as a broadcast lreatmen! per annual growing season.

Conservation Reserve Program (CRP) for Seeding to Permanent Grasses Only: Do not broadcast apply more than 0.5 lb active ingredient (1 quart) per acre of Tordon 22K per annual growing season or apply more than 1.0 active ingredient (2 quarts) per acre per annual growing season as a spot application. To reduce potential damage to subsequent small grain crops, use the lower rate or discontinue the use of Tordon 22K at least 2 years prior to the seeding of small grain crops. After CRP, do not plant broadleaf crops in treated acres until an adequately bioassay (such as planting strips of the intended broadleal crop in the treated area) shows that no detectable picloram is present in lhe soli.

Precautions for Avoiding Injury to Non-target Plants

Do not apply to areas that may be rotated to any broadleat crop.

Do not use manure from animals grazing trealed areas or leeding on treated hay on land used lor growing broadleaf crops, ornamentals, orchards or other susceptible, desirable plants. Manure may contain enough picloram to cause injury to susceptible plants.

Do not use grass or hay from treated areas for composting *or* mulching of susceptible broadleaf plants *or* crops.

Do not transfer livestock lrom treated grazing areas (or feeding of treated hay) onto broadleaf crop areas without first allowing 7 days of grazing on an untreated grass pasture (or feeding of untreated hay). Otherwise, urine and manure may contain enough plcloram to cause injury to sensitive broadleaf planls.

Do not contaminate water Intended for Irrigation or domestic purposes. To avoid injury to crops or olher desirable planls, do not treat or spray drift or run-off to fall onto banks or bolloms of irrigation ditches, either dry or containing water, *or* other channels that carry water that may be used for irrigation or domeslic purposes.

Do not use on flood or sub-irrigated land (such as pastures/meadows areas irrigated by periodic flooding or a shallow water table).

Do not rotate 10 food or feed crops on treated land if they are not registered for use with picloram until an adequately sensitive bioassay or chemical test shows that no detectable pielaram presenl in the soli.

Do not spray if the loss of forage legumes, including clover cannot be tolerated. Tordon 22K may injure ar kitllegumes. New legume seedlings may not grow for several years following application of this herbicide.

Do not apply to snow or ground. Application during very cold (near freezing) weather is not advisable.

Tordon 22K should not be applied on residential or commercial lawns or near ornamental trees and shrubs. Untreated trees can occasionally be affected by root uptake of herbicide through movement into the topsoil or by excretion of the producl from the roots of nearby treated trees. Do not apply Tardon 22K within the root zone of desirable trees unless such can be tolerated.

OO not move treated soli to areas other than sites for which Tordon 22K is registered for use. Also, do not use treated soil to *grow* planls lor which use of Tardon 22K is not registered until an adequately sensitive bioassay or chemical test shows that no delectable reSidue 01 picloram is present in the soil.

Do not make application when circumslances favor movement from treatment site.

Do not apply this producl through a mist blower.

Precautions for Avoiding Spray Drift

OO not apply or otherwise permit Tordon 22K or sprays containing Tordon 22K to contact crops or other desirable broadleaf plants, including but not limited to allalfa, beans, grapes, melons, peas, potatoes, safftower, soybeans, sugar beets, sunltower, tobacco, tomatoes, and olher vegetable crops, fJowers, fruit plants, ornamentals or shade trees or the soil conlaining rools of nearby valuable plants.

quantities of spray or drift, which may not be visible, may cause serious injury to susceptible plants during active growth or dormant periods. To minimize spray drift, use low nozzle pressure; apply as a coarse spray; and use nozzles designed tor herbicide application thal do not produce a fjne droplet spray. To aid in further reducing spray a drift control or deposition aid may be used with this product, especially when water alone is used as the carrier. If a drift conlrol aid is used, follow all use recommendations and precautions on the product label. Do not use a thickening agent with Microfoil Or Thru-Valve booms, or other systems that cannot accommodate thick sprays.

Ground Equipment: With ground equipment spray drift can be lessened by keeping the spray boom as low as possible; by applying 10gallons or more of spray per acre; by keeping the operating spray pressures at the manufacturer's recommended minimum pressures for the specific nozzle type used (low pressure nozzles are available from spray equipment manufacturers); by spraying when the wind velocity is low (follow state regulations). Avoid calm conditions which may be conducive to 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. A drift control or deposilion aid may be used to further reduce the potential for drift.

Aerial Application: Avoiding spray drilt at the application slte Is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. applicator and the grower are responsible for considering all these factors when making decisions.

The following drill management requirements must be followed to avoid off-target drift movement from aerial applications:

1. The distance of the outer most operating nozzles on the boom must not exceed 3/4 the length of the Wingspan or 90% of rotor width.
2. Nozzles must always polnl backward parallel with the air stream and never pointed downwards more than 45 degrees.

Where states more stringent regulations, they must be observed.

The applicator should be familiar with and take into account Ihe 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 10 reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets Ihat provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent 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 - 00 not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher How rate nozzles instead of increasing pressure.

Number of Nozzles - Use the minimum number of nozzles that provide uniform coverage.

Nozzle Orientation - Orienting nozzles so that the spray is released paralielto the produces larger droplets than olher orientations and is the recommended practice. Significant deflection from direction of air flow 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. stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length: For some use patlerns. reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drill without reducing swath width.

Application Height: Applications should not be made at a height greater than 10 feet above the top of the largest planls 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 2-10 mph. However, many factors, including droplet size and equipment Iype determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patlerns. Every applicator should be familiar with local Wind patterns and how they affect spray drift.

Temperature And Humidity: When making applications in low relative humidily, 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 temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets 10 remain in a concentrated cloud. This cloud can move in unpredictable direclions due to the light variable winds common during inversions. Temperalure 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 thai moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas: The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) minimal (e.g. when wind is blowing away from the sensitive areas).

Woody Plants and Broadleal Weeds Controlled

Woody Plants and Vines:

acacia, blackbrush
acacia. catcraw
acacia, twisted
aspen
blackberry
broom, Scotch
buttonbush
cactus spp.
camellhorn
cedars (Juniper)
chaparral spp.
dogwood
Douglas fir
fir spp.
gorse
granjeno
guajilfo
guava
gums
haw
hemlock
hickory
huisache (suppression only)
junipers/cedars
lantana
locust
maple spp.
mesquite
oak spp.
oak, live
oak, poison
persimmon
pine
poplar spp.
pine, pinyon
plum, java
rabbitbrush, Douglas
rose, Macartney
rose, multiflora
sagebrush, fringed
salmonberry
sassafras
sourwood
spruce
sumac
tallowlrec, Chinese
Irumpetcreeper
willows
wormwood, absinthe

Annual and Perennial Sreadlea' Weeds:

bindweed, field (p)
bitlerweed (a)
bouncingbet (a)
broomweed, annual (a)
buckwheal, wild (a)
buffatobur (a)
bullnellle (p)
bursage (a)
burroweed (p)
cactus sp. (p)
cactus, challa (p)
camphorweed (a)
carrot, wild (b)
chicory (a)
cinquefoil, sulfur (p)
clover (p)
cocklebur (a)
coneflower. upright prairie (p)
croton
crupina, common (a)
daisy, ox-eye (p)
fleabane (a,b)
dock., curly (p)
garbancillo (Woolen loco) (p)
galdaster, gray (p)
goldaster, narrowleaf (p)
goldenrod, common (p)
goldenweed, Drummond (p)
groundsel (p)
henbane, black. (a,b)
horseneltle, Carolina (p)
horseneltle, western (p)
horsene"le, white (p)
horseweed (a)
ironweed (p)
knapweed, diffuse (a)
k.napweed, meadow (p)
knapweed, Russian (p)
knapweed, spotted (p)
k.napweed, squarrose (p)
lambsquarters (a)
larkspur, geyer (p)
larkspur, plains (p)
larkspur, tall (p)
letluce, prickly (a)
licorice, wild (p)
locoweeds (p)
loco, woolly (p)
loco, Wooten (p)
lupines (p)
marshelder (sumpweed) (a)
mayweed (a)
milkweed (p)
mullein (b)
mustard, wild (a)
nightshade, silverleaf (p)
parsnip, wild (b)
pennycress (a)
pigweed (a)
pricklypear, plains (p)
pricklypear, lindheimer (p)
ragweed, bur (a)
ragweed, common (a)
ragweed, lanceleaf (a)
ragweed, western (a)
ragwort, tansy (b)
Russian thistle (a)
sage Mediterranean (b)
skeletonweed, rush (p)
smartweed (a)
snakeweed, broom (p)
sneezeweed, biller (a)
sowlhistle, perennial (p)
spurge, leafy (p)
St. Johnswort (p)
starthistre, Iberian (a)
starthistle, purple (a)
starthistle, yellow (a)
sunflower (a)
lasajillo (p)
thisltes, annual or biennial, including:
- thistle. artichoke (b)
- thistle, bull (b)
- thistle, distaff (a)
- thistle, Italian (b)
- thistle, musk (b)
- thistle, plumeless (b)
- thistle, Scotch (b)

thistles, perennial, including
- thistle, Canada (p)
- thistle, wavy leaf (p)

toadflax, dalmation (p)
toadflax, yellow (p)
yankeeweed (p)

(a) - annual; (b) - biennial; (p) - perennial

Tardon 22K to control susceptible broadleaf weeds and woody plants on non-cropland areas such as roadsides or other rights-ol-way, fence rows, and around farm buildings. Up to 2 quarts of Tordon 22K per acre may be applied. For general non-crop weed and brush control, See the Rangeland and Permanent Grass Pastures section for specific target weed or woody plant species treatment recommendations. See specific use directions for Forest Site Preparation below.

Broadcast Treatments for Forest Site Preparation (Not for Conifer Release)

For broadcast applications apply the recommended rate of Tardon 22K in a total spray volume a' 5 to 25 gallons per acre by air or 10 to 100 gallons per acre by ground. Use spray volumes sufllclent to provide thorough coverage of treated Use application systems designed to prevent spray drift to off-target sites. Nozzles or additives that produce larger droplets may require higher spray volumes to prOVide adequate coverage.

Southern States (Alabama. Arkansas, Delaware, Georgia, Louisiana, Maryland. Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas and Virginia): To control susceptible woody plants and broadleaf weeds, apply Tordon 22K at a rate of 2 quarts per acre. To broaden the spectrum of woody plants and broadleaf weeds controlled, apply 2 quarts per acre of Tordon 22K in tank mix combination with 2 to 4 quarts of Garlon 4 herbicide. Where grass control is desired, Torden 22K, alone or in combination with Garlon 4 herbicide, may be tank mixed with 1 to 4 quarts per acre of Accord or Roundup herbicides, or 8 to 16 fluid ounces per acre of Arsenal Applicator's Concentrate herbicide. Susceplible woody plants, broadleaf weeds and grasses may also controlled using a tank mix of 2 quarts per acre 01 Tardon 22K with 3 to 5 quarts per acre of Accord or Roundup herbicides, or 16 to 24 fluid ounces of ArSenal Applicator's Concentrate. When applying tank mixes, follow USe dIrections and precaulions on each producllabel.

In Western, Northeastern, and North Central and Lake States (States Not LIsled Above As Soulhern States): To control susceptible woody plants and broadleaf woeds, apply Tordon 22K at a rale of 1 to 2 quarts per acre. To broaden the spectrum of woody plants and broadleaf controlled, apply 1 to 2 quarts per of Tardon 22K in tank combination with 1.5 to 3 quarts per acre of Garlon 4 herbicide. Where grass control Is also desired, Tordon 22K, alone or in tank mix combination with Garlon 4, may be applied with 1 to 3 quarts per acre of Accord or Roundup herbicide, 2 to 4 ounces per acre of Oust, a combination of Accord (or Roundup) plus Oust at the rates llstad, or B to 16liuid ounces of Arsenal Applicator's Concentrate. When applying tank mixes, follow the use directions and precautions on each product label.

Rangeland and Permanent Grass Pastures

Use Tordon 22K on rangeland and permanent grass pastures to control susceplible broadleaf weeds and woody plants including. but not limiled 10 those shown in the following tables. Many annual at the seedling stage can be controlled at the rate all pt per acre. Where a rate range is recommended, choose the higher rale for dense weed infestations, and for more dependable, longer lasling control. Lower rates will perform best when applied under favorable conditions and at the optimum growlh stage, bul may provide a lower level of conlrol and require retreatment. For best results treat when weeds are small and actively growing in spring before full bloom, however, certain weeds may also be treated In late summer to fall. Treatments during full bloom or seed stage of some weeds may nat provide acceptable control.

Table 1: Rate Recommendations for Noxlous, Invasive, or Other Weed Species Predominant in the Plains and Northern States.

Weed Species	Broadcast Application (Rate/acrel	SDeclflc Use Directions
Annual and Biennial Weeds:		
bursage (bur ragweed) crupina, common henbane, black horseweed starthistle, Iberian starthistle, purple starthistle, allow	1-2 pt Tordon 22K	Apply when there is adequate soil moisture and weeds are actively growing.
thislles, including, bull distaff Italian musk plumeless scotch	Fall: *1/2-3/4* pt Tordon 22K Spring: *1/2-314* pi Tordan 22K + 1 lb ae 2,4-D	General: Apply atlhe rosette stage before bolting in the spring or in the fall prior to soil freeze up. Distaff Thistle: Apply at rosette stage in spring only. Bolted Musk Thistle: Apply before flowering at the rate of *3/4-1* pt 01 Tordon 22K + 1 lb ae of 2,4-D/acre.
Mullein, common	1-1.5pt Tordon 22K + 1 lb ae 2,4-D	Apply at the rosette stage with surfactant and use at least 30 gallons per acre of water carrier.

		stage or when applied 10 fall regrowlh. Undor favorable growing conditions, application
knapweed, spoiled		summer can be effective if higher application volumes are used.
knapweod, squarrose		Thistle (Canada and Wavy Leaf): Apply when most basal leaves have emerged, but before
rabbitbrush, Douglas		bud stage, or apply to regrowth the fall. Apply rates less than 1 1/2 pVacre only under
sage, Mediterranean		favorable conditions and in combination with 1 lb ae/acre of 2,4-D. Retreatment may be
thistle,artichoke		required.
thislle, Canada		Absinth wormwood: Apply in spring or early summer when plants are actively growing.
thislle, wavy leaf		Oxeye Daisy: Use 1.5,2 pVacre with at least 30 gallons per acre 01 water.
wormwood, absinth		
licorico, wild	2 pI	Wild licorice: Apply at bloom stage.
milkweed	Tordon 22K	Milkweed: Treat during aclive growlh and tank mix recommended rate of Tordon 22K with
		1 lb ae/acre 2,4·D and surfactant.
bindweed, field	2-4 pt	General: Annual retreatment ollhese species will be required at rates at low end of rale range.
gorse	Tordon 22K	Control at low end of rate range may be improved by tank mixing with 1 lb ae/acre 2,4-D.
lupines		Russian Knapweed: Apply during active growlh from bud to mid-flowering, or to fall regrowth.
knapweed, Russian		Leafy Spurge: Apply at true flower stage of growth or apply to fall regrowth. Re-apply when
ragwort, tansy		level 01 control falls below 80 percent.
skeletonweed, rush		Dalmatian Toadflax: Apply in the fall or summer when plants are actively growing through
spurge, leafy		full bloom stage of growth.
St. Johnswort		
toadllax, dalmatian		
larkspur, tall	4 pi	General: A relreatment program may be necessary for satisfactory control of these species.
sowthistle, perennial	Tardon 22K	Tall Larkspur: For best results apply from 6 inches tall to late bloom stage. For increased
toadflax, yellow		control, apply in tank-mix with Ally or Escort herbicide and surfactant.
		See General Use Precautions for note on grazlna treated poisonous plants.
Woody Plants:		
juniper	4 ql	ı Apply as a high volume foliar spray /Indlvldual plant treatment
	Tordon 22K per	
	100 aallons of sorav '	

redcedar, eastern

Eastern redcedar can be controlled with spot concentrale applications of Tordon 22K in either the spring (April-May) or fait (September-October). For best results, use 3 ml to 4 ml of Tordon 22K per 31eet of plant height. Application should precede periods of expected rainfalL Apply direclly to soil within the dripline and on the upslope side 01 the tree. Application to trees taller than 15 feet is not recommended. Do not use more than 2 pints of Tordon 22K oer acre in anv one vear.

Weed		
buflalobur bursage (bur ragweed) camphorweed carrot, wild cocklebur croton horseweed lettuce, prickly ragweed, common ragweed, lanceleal smartweed sneezeweed, bitter sunflower thistle, bull thistle, musk	pI Tarden 22K Mid to Late Season 1·2 pt Tordon 22K	Early Season: Recommendations are intended only for very early in lhe season when weeds are no more than 2 to 3 ir:lChes tall. Mid to Late Season: Recommendations are for weeds from 3 inches tall to early flowering. Thistles: Apply the [ower rate in the rate range when thistles are in the rosette stage before balling. Whon bolting, increase rate and add 2,4-D. Lanceleaf Ragweed: Use the higher rate within the recommended rate range.
Perennial Weeds:		
snakeweed, broom	Fall, Early Winter 1 pI Tordon 22K	Fall and Early Winter: If rainfall is less than average prior to flowering, apply after flowering is complete. If rainfall Is average to above average prior to or during flowering, apply during full flower andlor active Ilollination, before resumotion of new too arowth.
bullneltle conellower, upright prairie dock, curly horsenettle, Carolina horsenettle, western horsenetlle, white ironweed nightshade, silverleaf ragweed, western yankeeweed	1·2 pI Tordon 22K	General: Apply when there is adequate soil moisture and weeds are actively growing. Nellles and Silverleaf Nightshade: Apply when plants to flower in spring. Upright Prairie Coneflower: Apply when plants are 2·6 in. tall, before flowering. Curly Dock: Apply up to bolting Ironweed: Apply up to bud stage. Yankeeweed: Apply when plants are 8 to 10 in. tall.
goldaster, gray goldaster, narrowleaf goldenweed, common goldenweed, Drummond Osocoma SOD.}	1·2 pI Tordon 22K	Gray and Narrowleaf Goldaster: Apply in oil-water emulsion in spring during bud stage (prebloom). ThOrough coverage is essential. Goldenweed: Apply in spring (April-June) when there is substantial canopy development as a result of good growing conditions. Add an agricultural surfactant at 0.25%-0.5% or apply in oil-water emulsion. Increase spray volume, 4-5 gpa by air or 15-20 gpa by ground, to ensure lhorouQh coveraqe.
Poisonous Plants such as groundsel (Senecio spp.) lambert crazyweed loco, WOOlly loco, Wooton (garbancillo)	1 1/2·2 pt Tordon 22K	General: Apply in lall or winter when there is adequate soil moisture and weeds are actively growing. Herbicide applicalion may increase palatability of poisonous plants. OO not graze treated areas until poisonous plants are dry and no longer palatable to livestock. See General Use Precautions for note on grazing treated poisonous plants. Locoweeds: To improve wetling of locoweeds, use an agricultural surfactant at 0.25%-0.5% or apply in oil-water emulsion.

	Tordon 22K + 1 pt Remedy	Tordon 22K + 1 at Remedy	application Is recommended, however, fall applications nol provide satisfactory control of other woody species in the South Texas mixed brush complex. Performance can be erratic.
juniper, including, alligator redberry Utah one-seeded eastern redcedar pinyon pine	--	4at Tordon 22K	Apply May 1hrough July. Complete coverage is essential. Results with ashe juniper may be variable with high volume foliar application.
pr;cklypear, lindheimer (unburned rangeland)	2 pt Tordon 22K	4 at Tordon 22K	Application may be made anytime, but optimum time is late August to early November. Onset of herbicidal activity is very slow and may continue for two years or lonoer. Good coverage is essential.
pricklypear, lindhelmer (burned rangeland)	1 pt Tordon 22K	2 at Tordon 22K	Conduct intense controlled burns from December through March and apply Tordon 22K mid-April through May, ..inlall following burning can also stimulate prolific resprouting of the plants. Good coverage is also essential.
Pricklypear, plains	11/2-2pt	4 at	Optimum time lor treatment is during flowering Control may be improved by use of an oil-water emulsion spray mixture. Lower rate will provide partial control (sland reduction) and high rate more complete control Treatment response is slow and may continue lor 2 years or lonoer.
rose, Macartney rose, multiflora	1 at Tordon 22K + 21b ae 2,4-0	1-2 at Tordon 22K + 2-4 lb ae 2,4-0	Apply in the spring or fall when conditions are faVOrable for plant growth. Use an agricultural surfactant *vlv)* or apply as an oil-water emUlsion. Ensure thorough and uniform coverage by applying at higher spray volume, 5 or more gpa by air or 20 or more gpa by ground. Avoid treatment less than 9 to 12 months after mowing when plants have a high oercentaae 01 new arowth. Reoeat treatment as necessarv.
tallowlree, Chinese	1 qt Tordon22K + 21b ae 2,4-D or 1 pt Remedy	2 at Tordon 22K or qt Tardon 22K + 2-4 lb ae 2,4-0 or 1 at RemedY	Apply in the spring or fall, when conditions are favorable for plant growth. Use an agricutlural surfactant (0.5% vol/vol) or use an oil-water emulsion and higher spray volumes, 5 gpa Or more by air and 20 gpa or more by ground.
South Texas mixed brush, including, acacia, blackbrush acacia, catclaw acacia, twisted granjeno guajillo mesquite prickly pear tasa"illo	2 pt Tordon 22K + 213 -1 1/3 pI Reclaim or 1 to 2 pt Remedy	2 at Tordon 22K + 2-3 pt Remedy or 1-2 qt Reclaim	Apply in of oil·water emulsion. Use 4 or more gpa by air or 20 or more gpa by ground. For application timing for mesquite, see comments section on mesquite control. Tank mixing Tordon 22K with Reclaim wilt provide improved control of pricklypear and legume species such as mesquite and acacias white tank mixing with Remedy provide improved control of non-legume species such as granjeno, oaks and hackberry.

Table 2: Rate Recommendations for Broadleaf Weeds and Woody Species in the Southern U.S. (Alabama, Arkansas, Georgia, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas and Virginia) (Cont.)

	Broadcast Application (Rate/acre)	High Vol. Foliar (Rale/l00 gal)	Specific Use DIrections
Cactus mesquite	1·2 pt Tardon 22K + 213·1 1/3 pI Reclaim or 2 pI Tardon 22K + 1 pi Remedv	1·2 ql Tardon 22K + 1-2 ql Reclaim or 1 1/2-3 pt Remedy	Tardon 22K Alone: Apply as a spray or oil-water emulsion (see Mixing Instructions) in 4 or more gpa by air or 10 or more gpa by ground. Increase spray volumes with increasing brush density and height 10 ensure adequate coverage. Where of pricklypear cactus is desired, USe lhe 2 pinVacre rate of Tardon 22K.

Tardon 22K In Tank Mix: Tank mixing Reclaim will provide control of pricklypear and improved control of legume species such as mesquite and acacias while lank mixing wilh Remedy will provide improved control of non-legume specles such as granjena, oaks and hackberry. Regrowth mesquite should be at least 4 It tall prior to treatment. See labels for Reclaim and Remedy for additional treatment recommendations and information on mesquite control. Within rate ranges given for Tordon 22K and tank mix products, consult local recommendations.

Timing and Factors In Control: The herbicidal response of mesquite is strongly influenced by environmental conditions as well as foliage condition and stage 01 growth. For best results, apply when new growth foliage has turned from light to dark green, when the soli temperature has reached 75°F to 83°F at a depth of 12-18 inches, and soil moisture is adequate for plant growth. Application should be made within 45 days after the critical soil temperature althe 12-18 inch depth has been reached or, if Tordon 22K is applied in combinalion with Reclaim, within 60 days. Product performance may be adversely affected if application is made before mesquite foliage has turned from light to dark green or if foliage has been injured or removed by late frost, insects, hail or plant diseases. OO not apply il mesquite exhibits new (light green) growth in response to significant rainfall during the growing season. temperatures at the 12-18 inch depth may vary with soil texture and drainage. Coarse-textured (sandy) soils warm up sooner than fine-textured soils (Clay) soils and dry soils warm up more quickly than wet soils.

Re-applicalion: OO not reapply in the same growing season. Retreatment not be effective woody plants develop sufficient new foliage Ior intercePtion, uptake, and translocation 01 the herbicide to plant roots.

Spot Concentrate ADDIlcation for Juniper Control

ashe juniper
eastern redcedar
eastorn persimmon

General: Apply Tardon 22K as a spot concentrate application prior to periods of expected rainfall. Apply directly to the soil within the dripline and on the upslope side of the tree. Application to trees taller than 12 feel is not recommended. See directions for "Soil Spot Concentrate" in "Application Methods" section.

Ashe Juniper: Apply 4 to 6 ml per 3 ft of plant height in the spring (April-May) •

Eastern Redcedar: Apply 3 to 4 ml per 3 It of plant height in spring (April-May) or fait (September-October)

Eastern Persimmon: Apply 2 to 4 ml per inch 01 stem diameter in (March through May)

Seeding to Permanent Grasses, Including Conservation Reserve Program (CRPj Acres

Newly Seeded Grasses:
Tordon 22K should be applied only after perennial grasses are well established as Indicated by development of a good secondary root system and vigorous growth (usually 45 to 60 days alter planting). Most perennial grasses show improved tolerance to the posl emergence applicalions at this stage of development. Generally, wheatgrass species are more tolerant to Tordon soil residues.

For best resulls, apply to actively growing weeds in a spray volume 01 2 or more gallons of water per acre by air or 10 or more gallons of water per acre by ground. Refer to the weeds rate chart for information on target weed species and application rates.

Perennial Broadleaf Weeds:.Apply Tordon 22K to actively growing perennial broadreaf weeds at up 10 2 pints per acre alter the grass is well established. Risk of grass injury is greatest when using the maximum of 2 pint per acre rate.

Annual Broadlea. Weeds: Apply Tordon 22K at *1/2* to *3/4* pint per acre to actively growing susceptible annual broadleaf weeds, (including Russian thislle). Tordon 22K can also be tank mixed wilh *1/2* to 1 pound ae per of 2,4-D where 2,4-0 sensitive species are present. Read and follow all directions Ior use and use precautions on other product labels.

Weed Control Prior to Seeding Cool Season Perennial Grasses: Weed control with Tordon 22K fits inlo grass re-vegetation programs where perennial range or reclamation grass species are to be established in non-cropland, rangeland, permanent grass pastures, or CRP areas. Tordon 22K may be applied in the spring or early summer, depending on the target species, and grass seed planted in the fall when conditions are favorable for grass establishment. Alternatively, Tordon 22K may be applied in the fall and grass seed planted in the winter *or* spring when conditions are favorable Ior grass establishment.

Apply Tordon 22K at 1 qVacre or less. Refer to the weeds rate chart for information on target weed species and application rates. When Tordon 22K is applied at 1 qVacre there may be temporary injury to new plantings of certain perennial grass species, depending on However, temporary grass injury will be more than offset by the benefits to grasses due to decreased weed competition. Germination of annual grass species may be suppressed after treatment.

if

40°F between application and planting, except in the states of Idaho, North Dakota, Nebraska, Montana, Oregon, South Dakola, Washington and Wyoming, where the minimum preplant Inlerval is 90 days.

Restrictions:

- Do not apply more than 1 pint per acre as a broadcast trealment per annual growing season.
- Spot Treatment: See "Spot Treatment" in "Mixing and Application Methods" section for directions lor calibration, spray volume determination and mixing. Spot treatments of Tordon 22K at rates over 1 pint per acre can be made on fallow, non-irrigated cropland il the treated areas comprise less than 10% of the immediate field in anyone *year.* Tardon 22K should not be applied to cropland at rates exceeding 2 quarts per acre, When Tordon 22K applied at rates above 1 pint per acre, injury to small grains may result for periods up to two years aller trealment.

Mixing and Application Directions

2,4-D

Mixing Instructions

Mix the amount of Tardon 22K in water and apply as a coarse, low-pressure spray using ground equipment or aircralt. Use enough spray volume to provide uniform coverage of the weeds.

Use with Surfactants: Under certain conditions, such as drought or dusty plant surfaces, the addition of a surfactant may improve ellicacy. However, il foliar burn occurs too rapidly, translocation of Tordon 22K be impaired and control of perennial weeds, such as field bindweed, may be reduced.

control and deposition aids.

Mixing Oil-Water Emulsions (Ground and Aerial Applications)
For aerial applicalion, add oil 10 the total spray mix at the ratio all part oil to 5 parts watsr (1:5 ralio). For ground application. add oil to the spray mix al a rate of 51010% of lhe total mix. 00 not use more than 1 gallon of oil per acre for aerial or ground application. Use agricultural spray emulsifiers such as Sponto 712 or Triton X-100 according to mixing instructions given below.

Batch Mixing Instructions
conlinuous, vigorous agitation:

1. Add hall the amount of water to be used to the spray tank.
2. Add lhe required amount of water-soluble herbicides such as Tordon 22K, Garlon 3A, Reclaim" herbicide or 2,4-0 Amine.
3. With continued, vigorous agitation slowly add a premix of oil, emulsifier and oit soluble herbicides such as Garlon 4, Remedy" herbicide or a 2,4-0 esler as required. Note: Do not add water or mixtures containing water to the premix or oil soluble herbicide since a thick "invert" (water in oil) emulsion may be formed that be difficult to break. An invert emulsion will also form if the premix is added to the mixing tank before the addition of water.
4. Finish filling the spray tank and maintain sufficient agitation to ensure uniformity of the spray mixture during application.

Invert Emulsions (Non-food Crop Use Only)
Tordon 22K may be applied Envert 171 Woody Plant Herbicide an inverting agent .to provide a thick invert water-in-oil spray emulsion designed to minimize spray drill. Consult label directions for Envert 171 or agent for use directions. emulsions may be used only lor non-food uses.

Where root-suckering species such as sumac, sassafras, locust and black gum predominate, mix 3 gallons of Envert 171 plus 1 1/2 quarts Tordon 22K with 9 gallons of water for each acre to be sprayed.

Where harder-to-control species such as red maple, elm or oaks are present, mix 5 to 6 gallons 01 Envert 171 plus 1 to 2 quarts of Tardon 22K with 15 10 18 gallons of waler for each acre to be sprayed.

Mixing With Sprayable liquid Fertilizer Solutions
Tordon 22K is compatible most non-pressurized liquid fertilizer solutions; however, a compatibility test tesl) 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 concentralions 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 liquid fertilizer, the greater the likelihood mixing problems. Use of a compatibility aid such as Unite or Compex may help obtain and maintain a uniform spray solution during mixing and application. Compatibility is best with straight liqUid nitrogen lertilizer solutions. Mixing with N-P-K solutions or suspensions is more dillicult and should not be attempted without first conducting a successful jar test. in lhe spray tank must be vigorous to be comparable with jar test agitation. For best liquid rates should not exceed 50% of the lotal spray volume. Premix Tordon 22K with water and add to the liquid mixture while agitating contents of the spray tank. Apply the spray the same day it is prepared while maintaining continuous agitation_ Rinse spray tank thoroughly alter use,

Note: Foliar applied liquid fertilizers used as carrier for Tardon 22K can cause yellowing or leaf burn 01 grass foliage.

Tank Mixing
Tordon 22K may be applied in tank mix combination with labeled rates of 2,4-0 or other products provided (1) the tank mix product is labeled for lha timing and method of application *tor* the use site to be treated; and (2) tank mixing is not prohibited by the label of the tank mix product.

Tank Mixing Precautions:
Read carefully and follow applicable use directions, precautions, and on the respective product labels.
Do not exceed recommended applicalion rates. If products containing the same active ingredient are tank mixed, do not exceed the maxImum allowable active ingredient use rales.
For products packaged in water soluble packaging, do not tank mix with products containing boron or mix in equipment previously used to apply a product mixture containing boron unless the tank and spray equipment has been adequately cleaned. (See "Sprayer Clean-Out" below.)
For direct injection or other spray equipment where the product formulations be mixed in undiluted form, special care should be taken to ensure tank mix compatibility.
Note: Undiluted Tordon 22K can be incompatible with certain amine formulations of 2,4-D. This incompatibility can usually be overcome by diluting one or both products 50% water prior 10 mixing. Always perform a (jar) lest to ensure the compatibility of products to be used in tank mixture_

Tank Mix Compatibility TesUng: A jar test is recommended prior to lank mixing to ensure compatibility 01 Tordon 22K and other pesticides or carriers. Use a clear glass jar with tid and mix the tank mix ingredients in their relative proponions. The lank mixture is compatible if the materials mix readily when the jar is inverted several times. The mixture should remain slable aller standing for 1/2 hour or, it separation occurs, should readily mix if agitated. An incompatible mixture is indicated by separation into distinct layers which do not readily remix when agitated and/or the presence of flakes, precipitates, or heavy on the *jar.*

Do not use spray equipment used to apply Tardon 22K for other applications to land planted to, or to be planted to susceptible crops or desirable sensitive plants, unless has been determined that all phytotOXiC residue of this herbicide has been removed by thorough cleaning of equipment.

Local conditions may affect the use of herbicides. State agricultural experimenl stations or extension service weed specialists in many states issue recommendations to fillocal conditions. Be sure that use of this product conforms to all applicable regUlations.

surfaces are contacted (15 to 20 minutes).
Lei the solution stand for several hours, preferably overnight.

3. Flush the solution out the spray lank through the boom.
4. Rinse the system twice with clean water, recirculaling and draining each time.
5. Nozzles and screens should be removed and cleaned separately.

Application Methods

Ground or Aerial Broadcast

Use Tordon 22K as a broadcast treatment by ground or by air to control lisled broadleal weeds and woody plants. Apply Tordon 22K as a coarse low-pressure spray at the recommended rates in a spray volume of 2 or more gallons per acre by air or 10 or more gallons per acre by ground. For non-crop applications it is recommended that ground applications of Tordon 22K be made in 15 or more gallons of total spray mixlure per acre. For aerial applications, the use of 5 to 20 gallons per acre of spray mixture is recommended.

High-Volume Foliar Applications

Spray to thoroughly wet foliage and stems of individual plants. An approved surfactant should be added at the manufacturer's recommended rate. Do qot apply more than the maximum application rate of Tordon 22K specified for a given treatment site.

Modified High Volume Applications

For modified high volume leal-slem treatments of woody brush mix 1 103 quarts of Tordon 22K in 100 gallons 01 water. To control a wider range of plant species, mix 1 10 3 quarts of 22K with 1-3 quarts 01 Garlon- 4 herbicide or 1 to 4 quarts of Garlon 3A herbicide and dilute to make 100 gallons of spray. Apply after the foliage is well developed and in a manner which thoroughly wels all leaves, stems, and root collars.

The amount of spray mixture applied per acre vary with plant size and density. It is recommended that the tolal amount of spray mixture per acre is 40 to 60 gallons. The total use of Tordon 22K must not exceed 2 quarts per acre.

Spot Treatment

Use application rates as suggesled in the "Approved Uses" section of this label or recommended by your area weed control specialist. Apply in a total spray volume of 20 to 100 gallons per acre. To prevent misapplication, spot Ireatments should be applied with a calibrated boom or with hand sprayers according to directions provided below. Do not exceed maximum application rates for Tardon 22K for a given treatment sile. On rangeland and permanent grass pastures, spot treatments may be applied at an equivalent broadcast rate 01 up to 2 quarts per acre per annual growing season, but not more than 50% of an acre may be (unless the target weod is a noxious weed which allows higher broadcast use rates). Repeat treatmenls may be applied as necessary, bul total use must not exceed the maximum amount specilied.

Hand-Held Sprayers: Hand-held or backpack sprayers may be used for spot applications of Tordon 22K if care Is taken 10 apply the spray unilormly and al a rale equivalent to a broadcast application. Application rates in the table are based on an area of 1.000 sq It. Mix the amount 01 Tordon 22K (Il oz o ml) corresponding to the desired broadcast rate in 0.5 to 2.5 gallons 01 water, depending on the spray volume required to treat 1000 sq ft. To calculate the amount 01 Tordon 22K required for larger areas. multiply the table value (Il oz or mil by the area to be treated in "thousands" 01 square leet, e.g., if the area to be Ireated is 3,500 sq fI, mulliply the table value by 3.5 (calc. 3,500 + 1,000 = 3.5). An area of 1000 sq 11 is apprOXimately 10.5 X 10.5 yards (strides) in size.

Amount of Tordon 22K per 1,000 sq tt
to Eaual Specified Broadcast Rale

1/4 ptlacre	1/3 ptlacre	1/2 ptlacre	2/3 ptlacre	1 ptfacre	1 at/acre
1/10 fl oz r	1/8110z	1/5 oz	1/4 fl OZ	3/811 oz	3/4110z
(2.7 mil	(3.6 mil	15.4 mil	17.3 mil	111 mil	(22 mil

'1 Il oz= 29.6 (30) ml

Special Application Methods

5011 Spot Concentrate: Tordon 22K may be applied undiluted as a spot concentrate application to control ashe juniper, eastern redcedar and eastern persimmon. (See use directions lor these plant species under the Rangeland and Permanent Grass Pasture section of this label.) Applicalions should precede periods of expected rainfall. Apply directly to the soil within the dripline and on the upslope side of the tree. Applications to trees taller than 12 feet is nol recommended.

Broadcast Cut Stubble Treatment

To prevent re-sprouting of susceptible woody species after mowing or hand on non-crop areas and rights-of-way, use Tordon 22K Herbicide at the rate of 2 quarts per acre in 15 or more gallons 01 a water spray mixture. Best results may be obtained when applications are made before or during periods 01 active root growth. Applicalfons should nol be made when the soil is Irozen or.covered by snow or standing water. It is recommended that applications be made soon after cutting, before sprouting 01 woody species has occurred. The "Brown Brush Monilor" is recommended for this type of application.

Special Ground Sprayer Equipment: To control annual and perennial weed species using special low-volume, minimum drift equipment. such as the hooded Forage Chemical Mower, apply 1 to 2 pt of Tordon 22K in total volumes ranging from 1 gal to 5 gal per acre in water alone or as an oil-water emulsion at a 1:5 and 1:4 oil-to-water ralio for a 1 gal and 5 gal per acre solutions. respectively.

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 seifer for a full refund of purchase price paid. Olherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitations of Remedies.

warranty Disclaimer

Dow AgroSciences warrants that this product conforms to the chemical doscription on the label and is reasonably tit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set lorth below. Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPliED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

factors

etc.), abnormal (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all 01 which are beyond the control of Dow AgroSclences or Ihe seller. such risks be assumed by buyer.

Limitation of Remedies

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 Dow AgroSciences' election, one of Ihe following:

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

Dow AgroSciences shall not be liable for losses or damages resulting Irom handling or use 01 Ihis product unless Dow AgroSciences is promptly not1fied of such loss or damage in writing. In no case shall Dow AgroSclences be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer and Inherent Risk.s 01 Use above and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow AgroSciences or the seller is authorized to vary or in exceed the terms of the Warranty Disclaimer or this Limitation of Remedies any manner.

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Dow AgroSclences LLC -Indianapolis, IN 46268 U.S.A.

Label Code: D02·"'-01'
Replaces 002-111·010
LOES Number: 010-00094

EPA Accepted: 01-25-2005

Revisions

printing of revised label for Tordon 22K which combines uses of Tordon K and Tardon 22K into a single label.

RESTRICTED USE PESTICIDE
Tordon" 22K (EPA Reg. No. 62719-6)
(For Distribution and Use Only in the State of Hawaii)

Tordon 22K for Control of Certain Troublesome Woody Plants on Rangelands, Permanent Grass Pastures and Non-Cropland Areas

REGISTERED USES OF TORDON 22K FOR THE STATE OF HAWAII
(SALE AND USE RESTRICTED TO TORDON 22K PERMIT HOLDERS)

NOTICE:

- This supplemental labeling must be in the possession of the user at the time of application. Before using Tordon 22K, read and carefully follow all applicable Use Directions, Use Precautions, Precautionary Statements and Storage and Disposal directions on the label affixed to the product container. Also, Read and carefully follow all Use Precautions In this Supplemental Labeling
  Before buying or using this product, read "Warranty limitations and Disclaimer" on the Tordon 22K label. If terms are not acceptable, return unopened package at once to seller for refund of purchase price paid. Otherwise, use by the buyer or any other user constitutes acceptance of the terms under "Warranty Limitations and Disclaimer".
  Do not apply Tordon 22K through any type of irrigation system.
  Before applying, be certain that use of Tardon 22K conforms to all local reoulations.

Directions For Use

Use Tordon' 22K herbicide to control troublesome woody plants such as lantana, melastoma, guava, Java plum, pamakani, eat's claw, gorse, firebush and hau as well as many other woody plants, broadleaf weeds and vines infesting rangelands and permanent grass pastures and non-cropland area in the state of Hawaii. Treat anytime during the year when the plants are actively growing. Do not apply as a broadcast spray.

Individual Plant Foliar Treatment: Mix Tordon 22K at the rate of 2 quarts per 100 gallons of water. Add 2 quarts of surfactant to the spray mixture. Apply as a low pressure (10-30 psi) spray to thoroughly wet target vegetation, including leaves, stems and trunks of woody plants. For preparing smaller amounts of spray mixture, mix 2.5 fluid ounces of Tordon 22K and 2.5 fluid ounces of surfactant per 4 gallons of water and apply as above.

Re-treat in subsequent years as needed.

Cut Surface Treatments: For control of firebush, hau, Java plum and guava with trunks of 3 inches in diameter or larger. Use Tordon 2"K diluted 1 to 4 in water as directed below.

Tree Injector Application: Application should be made by injecting 1 milliliter of the diluted herbicide solution through the bark at intervals of 3 inches between edges of the injection wound. The injections should completely surround the tree trunk at any convenient height.

(Continued on back)

Frill or Girdle Application: Make a single girdle through the bark completely around the tree trunk at a convenient height. Wet the cut surface with the diluted herbicide solution.

USE PRECAUTIONS

Do not graze dairy animals on treated areas within two weeks after application. Do not slaughter meat animals grazing on treated areas until two weeks have eiapsed after application.

Do not allow spray drift. Tordon herbicides are highly active. Very smali amounts may cause damage to plants if applied during either growth or dormant periods. Do not appiy or otherwise permit Tordon 22K or sprays containing it to contact desirable plants such as pineapple, papaya, macadamia, coffee, vegetables, flowers, grapes, fruits trees, ornamentals, tomatoes, potatoes, beans of all types and other valuable broadleaf plants, nor soil containing roots of nearby valuable plants. Apply Tordon 22K only when there is little or no wind or no hazard from spray drift.

Do not contaminate water. To avoid injury to crops or other desirabie plants, do not contaminate irrigation ditches or water intended for irrigation or domestic purposes. Do not treat or allow spray drift to fall onto inner banks or bottom of irrigation ditches, either dry or containing water, or other channels that carry water that may be used for irrigation purposes.

Do not transfer livestock directly from treated areas onto broadleaf crop areas without allowing 7 days on untreated grass pastures. Urine may contain enough picloram to cause crop injury.

- Do not use manure from animals grazing treated areas on land used for growing broadleaf crops, ornamentals, orchards or other valuable plants. Manure may contain enough picloram to cause crop injury.
- Do not mix with other Pesticides unless the pesticide is EPA approved for use on sites for Which Tordon 22K use is approved. Use pesticide mixtures only in accordance with University of Hawaii treatment recommendations.

Cleaning Spray Equipment. Carefully follow equipment cleaning instructions on Tordon 22K label.

- Container Disposal. Carefully follow container disposal instructions on Tordon 22K label.

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122-42-001N (Reissued *01/01198* for company name change)
Approved: *01/14/91*
Replaces M1ASP001.

Revisions: Labeling edited for clarity and reformatted as Supplemental labeling. Use **directions are exclusively for use in the state of Hawaii.**

MATERIAL SAFETY DATA SHEET

Dow AgroSciences

Emergency Phone: 800-992-5994
Dow AgroSclences LLC
Indianapolis, IN 46268

rORDON* 22K HERBICIDE

Effective Date: 5/29/02
Product Code: 87116
MSDS: 000380

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Tordon' 22K Herbicide

COMPANY IDENTIFICATION:
Dow AgroSciences
9330 Zionsville Road
Indianapolis, IN 46268-1189

12, COMPOSITION/INFORMATION ON INGREDIENTS:

Picloram: 4-Amino-3,5,6-trichloropicolinic Acid, Potassium salt	CAS # 002545-60-0	24.4%
Inert Ingredients, Total, Including:		75.6%
Poiyglycol	CAS # 069029-39-6	

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). In addition, other substances not 'Hazardous' per this OSHA Standard may be listed. Where proprietary ingredient shows, the identity may be made available as provided in this standard.

13, HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW

Hazardous chemical. Dark brown liquid. May cause severe eye irritation. LOw for skin absorption in rabbits is >5000 mg/kg. Oral LOw for skin absorption in rabbits is >5000 mg/kg. Inhalation LC_{00} for rats for 4 hours is >8.11 mg/L. Material is slightly toxic to aquatic organisms and practically non-toxic to birds.
EMERGENCY PHONE NUMBER: 800-992-5994

POTENTIAL HEALTH EFFECTS: This section includes possible adverse, effects, which could occur if this material is not handled in the recommended manner.

EYE: May cause severe eye irritation. Corneal injury is unlikely. Effects likely to heal readily.

SKIN: Prolonged or repeated exposure may cause skin irritation, even a burn. Prolonged skin contact is unlikely to result in absorption of harmful amounts. The LOw for skin absorption in rabbits is >5000 mg/kg. Has caused allergic skin reactions when tested in guinea pigs. Did not cause allergic skin reactions when tested in humans.

IINGESTION: Very low toxicity if swallowed. The oral LD,o for male and female rats is >5000 mg/kg. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swalloWing larger amounts may cause injury.

INHALATION: No adverse effects are anticipated from single exposure to vapor. The LC_{00} for rats for 4 hours is >8,11 mg/L.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: In animals, effects have been reported on the following organ: liver.

CANCER INFORMATION: Did not cause cancer in laboratory animals.

TERATOLOGY (BIRTH DEFECTS): Birth defects are unlikely. Even exposures having an adverse effect on the mother should have no effect on the fetus.

REPRODUCTIVE EFFECTS: Picloram acid did not interfere with reproduction in laboratory animal studies.

4. FIRST AID:

EYES: 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.

SKIN: 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.

INGESTION: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Never give anything by mouth to an unconscious person.

INHALATION: Move person to fresh air; if effects occur, consult a physician.

NOTE TO PHYSICIAN: If burn is present, treat as any thermal burn. after decontamination. No specific antidote. Treatment of exposure should be directed at the control of smptoms and the clnical condition of the patient.

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FLASH POINT: None observed up to 214 0F
METHOD USED: TCe

FLAMMABLE LIMITS
LFL: Not determined
UFL: Not determined
EXTINGUISHING MEDIA: Alcohol foam, CO" dry chemical.

FIRE & EXPLOSION HAZARDS: No auto-ignition temperature when tested to 1022°F (550°C). Toxic, irritating vapors may be produced if product is involved in fire.

FIRE-FIGHTING EQUIPMENT: Wear positive-pressure, self-contained breathing apparatus and full protective clothing. Do not allow water from fire-fighting to enter water supplies.

15. ACCIDENTAL RELEASE MEASURES:

ACTION TO TAKE FOR SPILLS/LEAKS: Absorb small spills in and inert material, such as dry sand. In case of large spills, dike area to contain product and report to Dow AgroSciences at 800-992-5994.

17. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep out of reach of children. Causes substantial but eye InJury. Harmful If or absorbed through skin. Do not get in eyes or on clothing. AVOid spray mist. AVOid contact. Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Store in the original container with the lid tightly closed.

18. EXPOSURE CONTROLS/PERSONAL PROTECTION:

These precautions are suggested for conditions where the potential for exposure exists. Emergency conditions may require additional precautions.

EXPOSURE GUIDELINE(S): Picloram: ACGIH TLV is 10 mg/M^3, A4. OSHA PEL is 5 mg/M^3 respirable. PELs are in accord with those recommended by OSHA, as in the 1989 revision of PELs.
Polyglycol: Dow AgroSciences Industrial Hygiene Guide is 2 mg/M'.

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation to control airborne levels below the exposure gUidelines.

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guidelines. When respiratory protection is required for certain operations, use a NIOSH approved air-purifying respirator.

SKIN PROTECTION: When prolonged or frequently repeated contact could occur, use chemically protective clothing resistant to this material. Selection of specific items such as faceshield, gioves, boots, apron, or full-body suit will depend on operation.

EYE PROTECTION: Use chemical goggles.

APPLICATORS AND ALL OTHER HANDLERS: Refer to the product lable for personai protective clothing and equipment.

19. PHYSICAL AND CHEMICAL PROPERTIES:

BOILING POINT: 212°F (100°C)
VAPOR PRESSURE: Approximately 23 mmHg @ 20°C
VAPOR DENSITY: Not applicable
SOLUBILITY IN WATER: Miscible
SPECIFIC GRAVITY: 1.160 (68/68°F, 200C)
APPEARANCE: Dark brown liquid
ODOR: N t 1 bl
ODOR: Not available

10. STABILITY AND REACTIVITY:

STABILITY: (CONDITIONS TO AVOID) Stable under normal storage conditions.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) None under normal use conditions. Under abnormal conditions avoid oxidizing materials and strong acids. Consult manufacturer for specific cases.

HAZARDOUS DECOMPOSITION PRODUCTS: Hydrogen chloride and nitrogen oxides may be produced if product is involved in fire.

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HAZARDOUS POLYMERIZATION: Not known to occur.

11. TOXICOLOGICAL INFORMATION:

MUTAGENICITY: The preponderance of data shows picloram to be non-mutagenic in 'in vitro' (test tube) tests and in animal test systems.

12. ECOLOGICAL INFORMATION:

ENVIRONMETNAL FATE

MOVEMENT & PARTITIONING: Based largely or completely on information for picloram. Bioconcentration potential is low (BCF *<100* or Log Pow <3).

DEGRADATION & PERSISTENCE: Based largely or compietely on information for picloram. Biodegradation under aerobic laboratory conditions is below detectable limits «2.5%).

ECOTOXICOLOGY: Material is slightly toxic to aquatic organisms on an acute basis (LC_{50}/EC_{50} between 10 and *100 mg/L* in most sensitive species).
Acute LC,o for rainbow trout *IOncorhynchus mvkiss)* is 26 *mg/L.*
Acute LC,o for zebra fish *IBrachydanlo reriol* is 35.5 *mglL.*
Acute LC,o for sheepshead minnow *ICyprinodQn variegatus)* is >131 *mglL.*
Acute EC,o for shell deposition inhibitiQn in eastern oyster *ICrassQstrea virainica)* is 18-32 mglL.
Acute LC,o for pink shrimp *(Penaeus dUQrarum)* is 125 *mg/L.*
Material is practically nQn-toxic to birds on a dietary basis (LC,o *>5000* ppm)
Growth inhibition EC,o in duckweed *ILemna sp.)* is 196.2 mglL.
Growth inhibition EC,o for marine diatom *ISkele/Qnema* cQs/a/um) is *14mg/L.*
Growth inhibition EC,o for blue-green alga *IAnabaena fiQs-aquae)* is *590 mglL.*
Growth inhibition EC_{50} for diatom *INavicula sp.I* is 3.9 *mglL.*

113. DISPOSAL CONSIDERATIONS:

DISPOSAL METHOD: Do not contaminate food, feed, or water by storage or disposal. Wastes are toxic. Improper disposal or excess waste, spray mixture, or rinsate is a violation of federal law. If wastes reSUlting from the use of this product cannot be disposed of according to label instructions, dispose of these wastes at an approved faCility. Contact your state pesticide or environmental control agency, or the hazardous waste representative at the nearest EPA regional office for guidance.

114. TRANSPORT INFORMATION:

U,S. DOT

This Materiai is not regulated for Transportation.

115. REGULATORY INFORMATION:

NOTICE: The information herein presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are SUbject to change and may differ from one location to another; it is the buyer's responsibility to ensure that Its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations.

U.S. REGULATIONS

SARA 313 INFORMATION: To the best of our knowiedge, this product contains no chemicai subject to SARA Title III Section 313 supplier notification requirements.

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard
A delayed health hazard

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MATERIAL SAFETY DATA SHEET

Emorgoncy Phono: 800·992-5994
Dow AgroSciences LLC
Indlanopolis, IN 46268

Effective Date: *5/29/02*
Product Code: 87116
MSDS: 000360

TORDON* 22K HERBICIDE

TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS;

Category	Rating
Health	2
Flammability	1
Reactivity	1

[16. OTHER INFORMATION:

MSDS STATUS: Revised Sections: 3, 4, ¿ & 15
Reference: DR-0119-8636
Replaces MSDS Dated: *9/14/01*
Document Code: D03-111-004
Replaces Document Code: D03-111-003

The Information Herein Is Given In Good Faith, But No Warranty, Express or Implied, Is Made. Consult Dow AgroSciences for Further Information.

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