



**State of West Virginia
Department of Administration
Purchasing Division**

NOTICE

Due to the size of this bid, it was impractical to scan every page for online viewing. We have made an attempt to scan and publish all pertinent bid information. However, it is important to note that some pages were necessarily omitted.

If you would like to review the bid in its entirety, please contact the buyer. Thank you.



State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER

6612C015

PAGE

1

ADDRESS CORRESPONDENCE TO ATTENTION OF:

ALAN CUMMINGS
304-558-2402

*709005844 717-666-6661
ARBORCHEM PRODUCTS CO DIV ASPL
943 NIXON DRIVE

MECHANICSBURG PA 17055

DIVISION OF HIGHWAYS
VARIOUS LOCALES AS INDICATED
BY ORDER

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS		
01/18/2012						
BID OPENING DATE: 03/14/2012		BID OPENING TIME 01:30PM				
LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	EA		675-85		
HERBICIDES, ADJUVANTS, AND OTHER ITEMS						<i>See Attached - Enclosed Excel Sheet</i>
OPEN END CONTRACT						
THE WEST VIRGINIA STATE PURCHASING DIVISION FOR THE AGENCY, THE WEST VIRGINIA DIVISION OF HIGHWAYS, IS SOLICITING BIDS FOR AN OPEN END CONTRACT TO PROVIDE HERBICIDES, ADJUVANTS, SAFETY AND OTHER MISCELLANEOUS ITEMS FOR ALL TEN DISTRICTS PER THE ATTACHED SPECIFICATIONS.						
TECHNICAL QUESTIONS CONCERNING THIS SOLICITATION MUST BE SUBMITTED IN WRITING TO ALAN CUMMINGS IN THE WEST VIRGINIA STATE PURCHASING DIVISION VIA FAX AT 304-558-4115 OR VIA EMAIL AT ALAN.W.CUMMINGS@WV.GOV.						
DEADLINE FOR TECHNICAL QUESTIONS IS 02/17/12 AT THE CLOSE OF BUSINESS.						
ANY TECHNICAL QUESTIONS RECEIVED WILL BE ANSWERED BY FORMAL ADDENDUM TO BE ISSUED BY THE PURCHASING DIVISION AFTER THE DEADLINE HAS LAPSED.						
A MANDATORY PRE-BID MEETING WILL BE HELD ON 2/23/12 AT 11:00 A.M., IN THE WEST VIRGINIA STATE PURCHASING DIVISION LOCATED AT 2019 WASHINGTON STREET EAST, CHARLESTON, WV 25305. ALL INTERESTED PARTIES ARE REQUIRED TO ATTEND THIS MEETING. FAILURE TO ATTEND THE MANDATORY PRE-BID SHALL RESULT IN DISQUALIFICATION OF THE BID. NO ONE PERSON MAY REPRESENT MORE THAN ONE						
SEE REVERSE SIDE FOR TERMS AND CONDITIONS						
SIGNATURE <i>Alan Cummings</i>		TELEPHONE 717 766 6661		DATE 3/12/12		
TITLE Vice President		FEIN 2312-77550		ADDRESS CHANGES TO BE NOTED ABOVE		

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

GENERAL TERMS & CONDITIONS REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)

1. Awards will be made in the best interest of the State of West Virginia.
 2. The State may accept or reject in part, or in whole, any bid.
 3. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125 fee.
 4. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods this Purchase Order/Contract becomes void and of no effect after June 30.
 5. Payment may only be made after the delivery and acceptance of goods or services.
 6. Interest may be paid for late payment in accordance with the *West Virginia Code*.
 7. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
 8. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
 9. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
 10. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern the purchasing process.
 11. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
 12. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, the State may deem this contract null and void, and terminate such contract without further order.
 13. **HIPAA BUSINESS ASSOCIATE ADDENDUM:** The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, is available online at www.state.wv.us/admin/purchase/vrc/hipaa.html and is hereby made part of the agreement provided that the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.
 14. **CONFIDENTIALITY:** The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures, and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/noticeConfidentiality.pdf>.
 15. **LICENSING:** Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, and the West Virginia Insurance Commission. The vendor must provide all necessary releases to obtain information to enable the director or spending unit to verify that the vendor is licensed and in good standing with the above entities.
 16. **ANTITRUST:** In submitting a bid to any agency for the State of West Virginia, the bidder offers and agrees that if the bid is accepted the bidder will convey, sell, assign or transfer to the State of West Virginia all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to the bidder.
- I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, or person or entity submitting a bid for the same material, supplies, equipment or services and is in all respects fair and without collusion or Fraud. I further certify that I am authorized to sign the certification on behalf of the bidder or this bid.

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division. Complete all sections of the quotation form.
2. Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Unit prices shall prevail in case of discrepancy. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
4. All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130
5. Communication during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited (W.Va. C.S.R. §148-1-6.6).



State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER

6612C015

PAGE

2

ADDRESS CORRESPONDENCE TO ATTENTION OF:

ALAN CUMMINGS
304-558-2402

*709005844 717-666-6661
ARBORCHEM PRODUCTS CO DIV ASPL
943 NIXON DRIVE

MECHANICSBURG PA 17055

DIVISION OF HIGHWAYS
VARIOUS LOCALES AS INDICATED
BY ORDER

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
01/18/2012				
BID OPENING DATE: 03/14/2012		BID OPENING TIME 01:30PM		

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>BIDDER.</p> <p>AN ATTENDANCE SHEET WILL BE MADE AVAILABLE FOR ALL POTENTIAL BIDDERS TO COMPLETE. THIS WILL SERVE AS THE OFFICIAL DOCUMENT VERIFYING ATTENDANCE AT THE MANDATORY PRE-BID. FAILURE TO PROVIDE YOUR COMPANY AND REPRESENTATIVE NAME ON THE ATTENDANCE SHEET WILL RESULT IN DISQUALIFICATION OF THE BID. THE STATE WILL NOT ACCEPT ANY OTHER DOCUMENTATION TO VERIFY ATTENDANCE.</p> <p>THE BIDDER IS RESPONSIBLE FOR ENSURING THEY HAVE COMPLETED THE INFORMATION REQUIRED ON THE ATTENDANCE SHEET. THE PURCHASING DIVISION AND THE STATE AGENCY WILL NOT ASSUME ANY RESPONSIBILITY FOR A BIDDER(S) FAILURE TO COMPLETE THE PRE-BID ATTENDANCE SHEET. IN ADDITION, WE REQUEST THAT ALL POTENTIAL INCLUDE THEIR PHONE AND FAX NUMBERS.</p> <p>ALL POTENTIAL BIDDERS ARE REQUESTED TO ARRIVE PRIOR TO THE START TIME FOR THE PRE-BID. BIDDERS WHO ARRIVE LATE, BUT PRIOR TO THE DISMISSAL OF THE TECHNICAL PORTION OF THE PRE-BID WILL BE PERMITTED TO SIGN IN. BIDDERS WHO ARRIVE AFTER CONCLUSION OF THE TECHNICAL PORTION OF THE PRE-BID BUT DURING ANY SUBSEQUENT PART OF THE PRE-BID WILL NOT BE PERMITTED TO SIGN THE ATTENDANCE SHEET.</p> <p>EXHIBIT 10</p> <p>REQUISITION NO.:</p> <p>ADDENDUM ACKNOWLEDGEMENT</p> <p>I HEREBY ACKNOWLEDGE RECEIPT OF THE FOLLOWING CHECKED ADDENDUM(S) AND HAVE MADE THE NECESSARY REVISIONS TO MY PROPOSAL, PLANS AND/OR SPECIFICATION, ETC.</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
	717 766-6661	
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE
	2312-77550	

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

Request for Quotation

RFO NUMBER

6612C015

PAGE

3

ADDRESS CORRESPONDENCE TO ATTENTION OF

ALAN CUMMINGS
304-558-2402

*709005844 717-666-6661
ARBORCHEM PRODUCTS CO DIV ASPL
943 NIXON DRIVE

MECHANICSBURG PA 17055

DIVISION OF HIGHWAYS
VARIOUS LOCALES AS INDICATED
BY ORDER

V
E
N
D
O
R

S
H
I
P
T
O

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
01/18/2012				

BID OPENING DATE: 03/14/2012 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
ADDENDUM NO.'S:						
NO. 1						
NO. 2						
NO. 3						
NO. 4						
NO. 5						
I UNDERSTAND THAT FAILURE TO CONFIRM THE RECEIPT OF THE ADDENDUM(S) MAY BE CAUSE FOR REJECTION OF BIDS.						
VENDOR MUST CLEARLY UNDERSTAND THAT ANY VERBAL REPRESENTATION MADE OR ASSUMED TO BE MADE DURING ANY ORAL DISCUSSION HELD BETWEEN VENDOR'S REPRESENTATIVES AND ANY STATE PERSONNEL IS NOT BINDING. ONLY THE INFORMATION ISSUED IN WRITING AND ADDED TO THE SPECIFICATIONS BY AN OFFICIAL ADDENDUM IS BINDING.						
..... SIGNATURE COMPANY DATE						
NOTE: THIS ADDENDUM ACKNOWLEDGEMENT SHOULD BE SUBMITTED WITH THE BID.						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFO, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER

6612C015

PAGE

4

ADDRESS CORRESPONDENCE TO ATTENTION OF:

ALAN CUMMINGS
304-558-2402

*709005844 717-666-6661
ARBORCHEM PRODUCTS CO DIV ASPL
943 NIXON DRIVE

MECHANICSBURG PA 17055

DIVISION OF HIGHWAYS
VARIOUS LOCALES AS INDICATED
BY ORDER

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
01/18/2012				

BID OPENING DATE:

03/14/2012

BID OPENING TIME

01:30PM

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
REV. 09/21/2009						
EXHIBIT 3						
LIFE OF CONTRACT: THIS CONTRACT BECOMES EFFECTIVE ON AWARD AND EXTENDS FOR A PERIOD OF ONE (1) YEAR OR UNTIL SUCH "REASONABLE TIME" THEREAFTER AS IS NECESSARY TO OBTAIN A NEW CONTRACT OR RENEW THE ORIGINAL CONTRACT. THE "REASONABLE TIME" PERIOD SHALL NOT EXCEED TWELVE (12) MONTHS. DURING THIS "REASONABLE TIME" THE VENDOR MAY TERMINATE THIS CONTRACT FOR ANY REASON UPON GIVING THE DIRECTOR OF PURCHASING 30 DAYS WRITTEN NOTICE.						
UNLESS SPECIFIC PROVISIONS ARE STIPULATED ELSEWHERE IN THIS CONTRACT DOCUMENT BY THE STATE OF WEST VIRGINIA, ITS AGENCIES, OR POLITICAL SUBDIVISIONS, THE TERMS, CONDITIONS, AND PRICING SET FORTH HEREIN ARE FIRM FOR THE LIFE OF THE CONTRACT.						
RENEWAL: THIS CONTRACT MAY BE RENEWED UPON THE MUTUAL WRITTEN CONSENT OF THE SPENDING UNIT AND VENDOR, SUBMITTED TO THE DIRECTOR OF PURCHASING THIRTY (30) DAYS PRIOR TO THE EXPIRATION DATE. SUCH RENEWAL SHALL BE IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE ORIGINAL CONTRACT AND SHALL BE LIMITED TO TWO (2) ONE (1) YEAR PERIODS.						
CANCELLATION: THE DIRECTOR OF PURCHASING RESERVES THE RIGHT TO CANCEL THIS CONTRACT IMMEDIATELY UPON WRITTEN NOTICE TO THE VENDOR IF THE COMMODITIES AND/OR SERVICES SUPPLIED ARE OF AN INFERIOR QUALITY OR DO NOT CONFORM TO THE SPECIFICATIONS OF THE BID AND CONTRACT HEREIN.						
OPEN MARKET CLAUSE: THE DIRECTOR OF PURCHASING MAY						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
<i>[Signature]</i>	717-766-6661	
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE
<i>VP</i>	2312-77550	

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER

6612C015

PAGE

5

ADDRESS CORRESPONDENCE TO ATTENTION OF:

ALAN CUMMINGS
304-558-2402

V
E
N
D
O
R

*709005844 717-666-6661
ARBORCHEM PRODUCTS CO DIV ASPL
943 NIXON DRIVE

MECHANICSBURG PA 17055

S
H
I
P
T
O

DIVISION OF HIGHWAYS
VARIOUS LOCALES AS INDICATED
BY ORDER

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
01/18/2012				

BID OPENING DATE:

03/14/2012

BID OPENING TIME

01:30PM

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
AUTHORIZE A SPENDING UNIT TO PURCHASE ON THE OPEN MARKET, WITHOUT THE FILING OF A REQUISITION OR COST ESTIMATE, ITEMS SPECIFIED ON THIS CONTRACT FOR IMMEDIATE DELIVERY IN EMERGENCIES DUE TO UNFORESEEN CAUSES (INCLUDING BUT NOT LIMITED TO DELAYS IN TRANSPORTATION OR AN UNANTICIPATED INCREASE IN THE VOLUME OF WORK.)						
QUANTITIES: QUANTITIES LISTED IN THE REQUISITION ARE APPROXIMATIONS ONLY, BASED ON ESTIMATES SUPPLIED BY THE STATE SPENDING UNIT. IT IS UNDERSTOOD AND AGREED THAT THE CONTRACT SHALL COVER THE QUANTITIES ACTUALLY ORDERED FOR DELIVERY DURING THE TERM OF THE CONTRACT, WHETHER MORE OR LESS THAN THE QUANTITIES SHOWN.						
ORDERING PROCEDURE: SPENDING UNIT(S) SHALL ISSUE A WRITTEN STATE CONTRACT ORDER (FORM NUMBER WV-39) TO THE VENDOR FOR COMMODITIES COVERED BY THIS CONTRACT. THE ORIGINAL COPY OF THE WV-39 SHALL BE MAILED TO THE VENDOR AS AUTHORIZATION FOR SHIPMENT, A SECOND COPY MAILED TO THE PURCHASING DIVISION, AND A THIRD COPY RETAINED BY THE SPENDING UNIT.						
BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES FOR BANKRUPTCY PROTECTION, THE STATE MAY DEEM THE CONTRACT NULL AND VOID, AND TERMINATE SUCH CONTRACT WITHOUT FURTHER ORDER.						
THE TERMS AND CONDITIONS CONTAINED IN THIS CONTRACT SHALL SUPERSEDE ANY AND ALL SUBSEQUENT TERMS AND CONDITIONS WHICH MAY APPEAR ON ANY ATTACHED PRINTED DOCUMENTS SUCH AS PRICE LISTS, ORDER FORMS, SALES AGREEMENTS OR MAINTENANCE AGREEMENTS, INCLUDING ANY ELECTRONIC MEDIUM SUCH AS CD-ROM.						
REV. 01/17/2012						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER

6612C015

PAGE

6

ADDRESS CORRESPONDENCE TO ATTENTION OF:

ALAN CUMMINGS
304-558-2402

*709005844 717-666-6661
ARBORCHEM PRODUCTS CO DIV ASPL
943 NIXON DRIVE

MECHANICSBURG PA 17055

DIVISION OF HIGHWAYS
VARIOUS LOCALES AS INDICATED
BY ORDER

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
01/18/2012				
BID OPENING DATE: 03/14/2012		BID OPENING TIME 01:30PM		

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
EXHIBIT 4						
LOCAL GOVERNMENT BODIES: UNLESS THE VENDOR INDICATES IN THE BID HIS REFUSAL TO EXTEND THE PRICES, TERMS, AND CONDITIONS OF THE BID TO COUNTY, SCHOOL, MUNICIPAL AND OTHER LOCAL GOVERNMENT BODIES, THE BID SHALL EXTEND TO POLITICAL SUBDIVISIONS OF THE STATE OF WEST VIRGINIA. IF THE VENDOR DOES NOT WISH TO EXTEND THE PRICES, TERMS, AND CONDITIONS OF THE BID TO ALL POLITICAL SUBDIVISIONS OF THE STATE, THE VENDOR MUST CLEARLY INDICATE SUCH REFUSAL IN HIS BID. SUCH REFUSAL SHALL NOT PREJUDICE THE AWARD OF THIS CONTRACT IN ANY MANNER.						
REV. 3/88						
PURCHASING CARD ACCEPTANCE: THE STATE OF WEST VIRGINIA CURRENTLY UTILIZES A VISA PURCHASING CARD PROGRAM WHICH IS ISSUED THROUGH A BANK. THE SUCCESSFUL VENDOR MUST ACCEPT THE STATE OF WEST VIRGINIA VISA PURCHASING CARD FOR PAYMENT OF ALL ORDERS PLACED BY ANY STATE AGENCY AS A CONDITION OF AWARD.						
NOTICE						
A SIGNED BID MUST BE SUBMITTED TO:						
DEPARTMENT OF ADMINISTRATION PURCHASING DIVISION BUILDING 15 2019 WASHINGTON STREET, EAST CHARLESTON, WV 25305-0130						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER

6612C015

PAGE

7

ADDRESS CORRESPONDENCE TO ATTENTION OF

ALAN CUMMINGS

304-558-2402

*709005844 717-666-6661
ARBORCHEM PRODUCTS CO DIV ASPL
943 NIXON DRIVE

MECHANICSBURG PA 17055

DIVISION OF HIGHWAYS
VARIOUS LOCALES AS INDICATED
BY ORDER

V
E
N
D
O
R

S
H
I
P
T
O

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS		
01/18/2012						
BID OPENING DATE: 03/14/2012		BID OPENING TIME 01:30PM				
LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>THE BID SHOULD CONTAIN THIS INFORMATION ON THE FACE OF THE ENVELOPE OR THE BID MAY NOT BE CONSIDERED:</p> <p>SEALED BID</p> <p>BUYER: ALAN CUMMINGS - FILE 33</p> <p>RFQ. NO.: 6612C015</p> <p>BID OPENING DATE: 03/14/2012</p> <p>BID OPENING TIME: 1:30 P.M.</p> <p>PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY TO CONTACT YOU REGARDING YOUR BID:</p> <p>----- 717 795- 8234 -----</p> <p>CONTACT PERSON (PLEASE PRINT CLEARLY):</p> <p>----- Joe Lentz -----</p> <p>ANY INDIVIDUAL SIGNING THIS BID IS CERTIFYING THAT: (1) HE OR SHE IS AUTHORIZED BY THE BIDDER TO EXECUTE THE BID OR ANY DOCUMENTS RELATED THERETO ON BEHALF OF THE BIDDER, (2) THAT HE OR SHE IS AUTHORIZED TO BIND THE BIDDER IN A CONTRACTUAL RELATIONSHIP, AND (3) THAT THE BIDDER HAS PROPERLY REGISTERED WITH ANY STATE AGENCIES THAT MAY REQUIRE REGISTRATION.</p>						
SEE REVERSE SIDE FOR TERMS AND CONDITIONS						
SIGNATURE		TELEPHONE		DATE		
		717 766-6661				
TITLE		FEIN		ADDRESS CHANGES TO BE NOTED ABOVE		
VP		232-27550				

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

1. SPECIFICATIONS

The following sections of the West Virginia Department of Transportation, Division of Highways Standard Specification Roads and Bridges, adopted 2010, as modified by the January 1, 2011 Supplemental Specifications shall apply to the administration of this Contract: 101, 102.4, 102.5, 105.1, 105.3, 105.4, 105.10, 105.11, 105.12, 105.13, 106.3, 106.4, 106.5, 106.6, 106.7, 106.9, 107.1, 107.2, 107.3, 107.14, 107.19, 107.20, 108.8, 109.1, 109.2, and 109.20

The terms "Contractor" and "Vendor" used in the above specifications or this contract are interchangeable. Contractor shall mean Vendor and Vendor shall mean Contractor.

West Virginia Department of Transportation, Division of Highways Standard Specifications Roads and Bridges, adopted 2010 and the January 1, 2011 Supplemental Specifications may be obtained from:

West Virginia Division of Highways
Contract Administration
Building 5, Room 722
1900 Kanawha Boulevard, East
Charleston, West Virginia 25305
Phone: 304-558-2885

<http://www.transportation.wv.gov/highways/contractadmin/specifications/2010StandSpec/Pages/default.aspx>

Herbicide furnished under this contract shall conform to the physical and chemical properties set out in the EPA Registration of the product provided by the Vendor.

2. BIDDING INSTRUCTIONS

Vendors may bid on any or all of the products listed on the Bid Schedule. Vendors may quote Product Name requested or provide "an equal to" product.

The vendor shall list the trade name and EPA Registration Number on the Bid Schedule for each product bid. Failure to list this information on the Bid Schedule will result in the disqualification of the vendor's bid on that product.

The vendor shall provide the label from the item being bid as "an equal to" the product requested to eliminate any confusion in determining equivalency to product item requested with their bid. The final determination of equivalency will be made by the Division of Highways.

Equivalency, chemical name or equivalent, shall mean equal and not necessarily identical. Prior to award of low bid the Division of Highways may require product samples for evaluation to determine equivalency. Product specifications and technical information should be submitted with bid and may also be used to determine equivalency.

The successful vendor shall furnish two product labels, for each product awarded, to the Division of

Highways. The labels shall provide pertinent information regarding product storage and handling or this information shall otherwise be provided with each shipment.

3. TRAINING AND TECHNICAL ASSISTANCE

In order to bid on and be awarded items on this contract, the vendor must have a representative, holding a valid Category 7 certification in West Virginia, available to provide training and technical assistance as required or upon request by Division of Highways personnel, including but not limited to, an annual Division of Highways Vegetation Management Seminar and this person is encouraged to attend the mandatory pre-bid meeting. Each bidder shall submit the name and telephone number of their representative with bid. The company shall have a valid Category 12 certification in West Virginia. Copies of these certifications shall be submitted with the bid.

The vendor's failure to submit the above certification information with their bid, shall result in the total disqualification of the vendor's bid.

NAME OF REPRESENTATIVE

PHONE NUMBER

ADDRESS

<u>Dave Krause</u>	<u>610 308-2007</u>	<u>941 Nixon Dr</u>
		<u>Mechanicsburg, PA</u>
		<u>322 Codrington Dr.</u>
		<u>Roanoke, WV 26447</u>

4. CONTRACT AWARD

It is the intent to award a contract for each product listed on the Bid Schedule. Qualified vendors who submit a valid low bid will be awarded a contract for those products for which their bid is low, provided that the vendor has listed the trade name and EPA Registration Number on the Bid Schedule for each product bid, as indicated in Section 2. Failure to list this information will result in the disqualification of the vendor's bid on that product.

The award for each product will be based on the bid price per unit of measure as requested on the Bid Schedule. Vendors are cautioned that the quantities on the Bid Schedule are estimates and only used for evaluation purposes.

The State of West Virginia reserves the right to make multiple awards on this contract when it is in the best interest of the State to do so.

5. ACCEPTANCE PLAN

With each delivery of herbicide products to the Division of Highways, the vendor shall certify that the products delivered conform to the properties described in the EPA Registration.

Material failing to comply with the quality requirement will not be accepted.

6. TESTING PROCEDURES

Upon award of contract, the successful vendor(s) shall supply the Division of Highways, Materials Control, Soil and Testing Division, 190 Dry Branch Road, Charleston, WV 25306, the proper testing procedures to determine the presence and concentration of the Herbicide in flowing water.

7. BID QUANTITIES

Vendors are cautioned that the quantities listed on the Bid Schedule are estimates only. Actual requests will be placed to the awarded vendor from the Division of Highways by an Agency Release at the time of need.

8. DELIVERY

Materials under this contract are to be shipped prepaid F.O.B. delivery to Division of Highways District Storerooms as follows:

District One	Charleston
District Two	Huntington
District Three	Parkersburg
District Four	Clarksburg
District Five	Burlington
District Six	Moundsville
District Seven	Weston
District Eight	Elkins
District Nine	Lewisburg
District Ten	Princeton

Materials should be shipped to the location and in the quantity specified in the Agency Release within 20 days after the Agency Release is issued by the Division of Highways.

9. VENDOR'S INVOICES

Vendor's invoices must be submitted in original and four copies and contain the following:

- a. Division of Highways Agency Release Number and Contract Number.
- b. Total quantity and unit price with the total cost of each type of item furnished.

Note: Under no circumstance will the Division of Highways accept, or pay for, quantities of material in excess of the quantity stated on the Agency Release.

10. RESTRICTED AND NON-RESTRICTED HERBICIDES

Herbicide products which have been declared RESTRICTED in their use by the Environmental Protection Agency (EPA) must be applied under the supervision of a licensed herbicide applicator. The Department reserves the right to disallow the use of RESTRICTED herbicides when non-restricted herbicides are available to achieve the same objective.

11. PURCHASING CARD ACCEPTANCE

The State of West Virginia currently utilizes a VISA Purchasing Card Program which is issued through a bank. The successful vendor(s) must accept the State of West Virginia VISA Purchasing Card for payment of all orders placed by any State agency as a condition of award.

12. MANDATORY PRE-BID

There will be a mandatory pre-bid meeting on Thursday, February 23, 2012 – this date coincides with the 2078 Vegetation/Herbicide Management Seminar.

Location: Purchasing Division Conference Room
2019 Washington Street, East, Building 15
Charleston, WV 25305

NOTE: Vendors should type Bid Schedules

The "Bid Schedule" is available for download on Purchasing's Web site at
www.state.wv.us/admin/purchase



State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER

6612C015

PAGE

1

ADDRESS CORRESPONDENCE TO ATTENTION OF:

ALAN CUMMINGS
304-558-2402

V
E
N
D
O
R

*709005844 717-666-6661
ARBORCHEM PRODUCTS CO DIV ASPL
943 NIXON DRIVE
MECHANICSBURG PA 17055

S
H
I
P
T
O

DIVISION OF HIGHWAYS
VARIOUS LOCALES AS INDICATED
BY ORDER

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
02/05/2012				

BID OPENING DATE:

03/14/2012

BID OPENING TIME

01:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	ADDENDUM NO.01					
	ADD ITEM # DOH-24H TO THE BID SCHEDULE.					
	BID OPENING DATE AND TIME REMAIN UNCHANGED AS: 3/14/2012 AT 1:30 P.M.					
	1	EA		675-85		
	HERBICIDES, ADJUVANTS, AND OTHER ITEMS					
***** THIS IS THE END OF RFQ 6612C015 ***** TOTAL: _____						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
<i>Ja. Smith</i>	717 766-6661	3-12-12
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE
Vice President	2312-77550	

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

**GENERAL TERMS & CONDITIONS
REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)**

1. Awards will be made in the best interest of the State of West Virginia.
2. The State may accept or reject in part, or in whole, any bid.
3. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125 fee.
4. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods this Purchase Order/Contract becomes void and of no effect after June 30.
5. Payment may only be made after the delivery and acceptance of goods or services.
6. Interest may be paid for late payment in accordance with the **West Virginia Code**.
7. Vendor preference will be granted upon written request in accordance with the **West Virginia Code**.
8. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
9. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
10. The laws of the State of West Virginia and the **Legislative Rules** of the Purchasing Division shall govern the purchasing process.
11. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
12. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, the State may deem this contract null and void, and terminate such contract without further order.
13. **HIPAA BUSINESS ASSOCIATE ADDENDUM:** The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, is available online at www.state.wv.us/admin/purchase/vrc/hipaa.html and is hereby made part of the agreement provided that the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.
14. **CONFIDENTIALITY:** The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures, and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/noticeConfidentiality.pdf>.
15. **LICENSING:** Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, and the West Virginia Insurance Commission. The vendor must provide all necessary releases to obtain information to enable the director or spending unit to verify that the vendor is licensed and in good standing with the above entities.
16. **ANTITRUST:** In submitting a bid to any agency for the State of West Virginia, the bidder offers and agrees that if the bid is accepted the bidder will convey, sell, assign or transfer to the State of West Virginia all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to the bidder.

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, or person or entity submitting a bid for the same material, supplies, equipment or services and is in all respects fair and without collusion or Fraud. I further certify that I am authorized to sign the certification on behalf of the bidder or this bid.

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division. Complete all sections of the quotation form.
2. Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Unit prices shall prevail in case of discrepancy. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
4. All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130
5. Communication during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited (W.Va. C.S.R. §148-1-6.6).

13 Herbicide Bid Schedule

ADDENDUM #1 6612C015

HERBICIDES		Estimated Quantity	Unit of Measure	Cost Per Unit of Measure	Extended Cost
Item #	Description				
DOH-42H	A Liquid Containing: Indaziflam				
		19.05%			
		(1.67 pounds per gal)			
	Product Trade Name: ESPLANADE 200SC or equal				
	EPA Registration Number: 432 - 1516				
	A) Supplied in 2.5 gallon containers in lots of 5 gallons	50	gallons	975.00	4875.00
	B) Supplied in 1 quart containers in lots of 1 gallon	50	gallons	262.60	1050.00

HERBICIDES		Description	% Concentration/ Pounds per Gallon of Active Ingredients	Estimated Quantity	Unit of Measure	Cost Per Unit of Measure	Extended Cost
Item #							
DOH-1H	Water Soluble Emulsifiable Concentrate Containing: Ammonium Salt of Fosamine with Surfactant		4 lbs/gallon	3000	gallon	\$ 62.94	\$ 314.70
	Product Trade Name: Krenite S _____						
	EPA Registration Number: _____ 352-395						
	A) Supplied in 2.5 gallon containers in lots of 5 gallons						
DOH-2H	B) Supplied in 15 gallon returnable/refillable containers		50.20%	3000	gallon	\$ 54.89	\$ 7,410.15
	Water Soluble Emulsifiable Concentrate Containing: Isopropylamine Salt of Glyphosate Phosphate Ester Surfactant						
	Product Trade Name: Accord XRT II _____						
	EPA Registration Number: _____ 62719-556						
DOH-3H	A) Supplied in 30 gallon plastic returnable drums.		75%	6000	gallon	\$ 13.84	\$ 415.20
	B) Supplied in 2.5 gallon containers in lots of 5 gallons						
	C) Supplied in 15 gallon returnable/refillable containers						
	D) Supplied in 250 gallon returnable/refillable shuttle.						
DOH-4H	Dispersible Granules Containing: Sulfometuron Methyl		4 lbs/gallon	100	pound	\$ 65.50	\$ 1,572.00
	Product Trade Name: Oust XP _____						
	EPA Registration Number: _____ 352-601						
	A) Supplied in 3 pound containers in lots of 24 pounds						
DOH-5H	B) Supplied in 3 pound jug		2 lbs/gallon	250	gallon	\$ 44.95	\$ 224.75
	Water Soluble Aqueous Suspension Containing: Oryzalin						
	Product Trade Name: Oryzalin 4 Pro _____						
	EPA Registration Number: _____ 72167-15-74477						
DOH-5H	A) Supplied in 2.5 gallon containers in lots of 5 gallons		2 lbs/gallon	150	gallon	\$ 68.66	\$ 171.65
	Aqueous Solution Containing: Imazapyr						
	Product Trade Name: Polaris _____						
	EPA Registration Number: _____ 241-431						
DOH-5H	A) Supplied in 2.5 gallon containers in lots of 5 gallons		2 lbs/gallon	150	gallon	\$ 70.66	\$ 1,059.90
	B) Supplied in 15 gallon drums						

13 Herbicide Bid Schedule		6612C015 Arborchem (Div. of Asplundh Tree)					
HERBICIDES		Description	% Concentration/ Pounds per Gallon of Active Ingredients	Estimated Quantity	Unit of Measure	Cost Per Unit of Measure	Extended Cost
Item #							
DOH-6H	Aqueous Carrier Containing: Pendimethalin		3.8 lbs/gallon				
	Product Trade Name: Pendulum AquaCap						
	EPA Registration Number: 241-416						
DOH-7H	A) Supplied in 2.5 gallon containers in lots of 5 gallons			600	gallon	\$ 45.68	\$ 228.40
	Water Soluble Concentrate Containing: Triclopyr		3 lbs/gallon				
	Product Trade Name: Garlon 3A or equal Element 3A						
	EPA Registration Number: 62719-37						
	A) Supplied in 2.5 gallon containers in lots of 5 gallons			500	gallon	\$ 37.00	\$ 185.00
DOH-8H	B) Supplied in 30 gallon containers			500	gallon	\$ 37.00	\$ 1,110.00
	C) Supplied in 15 gallon continuum returnable/refillable containers in pallets of 9 containers.			500	gallon	\$ 40.00	\$ 5,400.00
	Water Soluble Concentrate Containing: Triclopyr		4 lbs/gallon				
	Product Trade Name: Garlon 4 Ultra or equal Element 4						
	EPA Registration Number: 62719-40						
DOH-9H	A) Supplied in 2.5 gallon containers in lots of 5 gallons			250	gallon	\$ 46.00	\$ 230.00
	B) Supplied in 30 gallon containers			250	gallon	\$ 46.00	\$ 1,380.00
	C) Supplied in 15 gallon continuum returnable/refillable containers in pallets of 9 containers.			250	gallon	\$ 49.00	\$ 6,615.00
	A Water Soluble Dispersible Granule Containing: Diuron		80.00%				
	Product Trade Name: Karmex XP or equal Diuron DF						
DOH-10H	EPA Registration Number: 66222-51-74477						
	A) Supplied in 5 pound bags in lots of 10 bags			2000	pound	\$ 5.00	\$ 250.00
	B) Supplied in 25 pound bags			2000	pound	\$ 5.00	\$ 125.00
	Water Soluble Liquid Containing: Dimethylamine Salt of 2, 4-D acid		3.8 llbs/gallon				
	Product Trade Name: DMA-4						
	EPA Registration Number: 62719-3						
	A) Supplied in 2.5 gallon containers in lots of 5 gallons			100	gallon	\$ 15.66	\$ 73.30
	B) Supplied in 30 gallon containers			100	gallon	\$ 15.66	\$ 439.80
	C) Supplied in 15 gallon returnable/refillable containers in pallets of 9 containers.			100	gallon	\$ 18.66	\$ 2,384.10

13 Herbicide Bid Schedule

6612C015

Arborchem (Div. of Asplundh Tree)

HERBICIDES							
Item #	Description	% Concentration/ Pounds per Gallon of Active Ingredients	Estimated Quantity	Unit of Measure	Cost Per Unit of Measure	Extended Cost	
DOH-11H	Water Soluble Liquid Containing: Ammonium Salt of Imazapic	23.60%	50	gallon	\$ 151.25	\$ 302.50	
	Product Trade Name: Plateau						
	EPA Registration Number: 241-365						
	A) Supplied in 1 gallon containers in lots of 2 gallons						
	B) Supplied in 1.44 ounce packets in lots of 14 packets						
	C) Supplied in 1 quart containers in lots of 4 quarts	4444	packet		N/A		
	D) Supplied in 15 gallon containers	200	quart		N/A		
		4	containers		N/A		
DOH-12H	A Dispersible Liquid Containing: Hexazinone	2 lbs/gallon					
	Product Trade Name: Velpar L						
	EPA Registration Number: 352-392						
	A) Supplied in 2.5 gallon containers in lots of 5 gallons						
DOH-13H	Dry Flowable Containing: Metsulfuron Methyl	60%	50	gallon	\$ 70.24	\$ 351.20	
	Product Trade Name: Escort XP						
	EPA Registration Number: 352-439						
	A) Supplied in 16 ounce containers in lots of 8 pounds (8-16 oz ctrs)						
	B) Supplied in 16 ounce jugs						
	C) Supplied in 64 ounce jug returnable/refillable	2400	ounce	\$ 1,113.60	\$ 997.12		
		2400	ounce	\$ 139.20	\$ 124.64		
		2400	ounce	\$ 556.80	\$ 498.56		
DOH-14H	Water Soluble Granule Herbicide Containing: Ammonium Salt of Glyphosate	71.40%					
	Product Trade Name: Roundup Pro Dry or equal NO BID						
	EPA Registration Number:						
	A) Supplied in 23.25 pound box						
DOH-15H	Dry Flowable Containing: Chlorsulfuron	75%	25	box		NO BID	
	Product Trade Name: Telar XP						
	EPA Registration Number: 352-654						
	A) Supplied in 8 x 16 ounce container to a case						

Vice President Mar 12, 2012

Fein 2312-77550

ph 717-766-6661

13 Herbicide Bid Schedule

6612C015 Arborchem (Div. of Asplundh Tree)

HERBICIDES		Description	% Concentration/ Pounds per Gallon of Active Ingredients	Estimated Quantity	Unit of Measure	Cost Per Unit of Measure	Extended Cost
Item #							
DOH-16H	A Liquid Solution Containing: Isooctyl ester of 2,4 Dichlorophenoxyacetic Acid 2-ethylhrxyl ester of +R-2-(2,4-Dichlorophenoxy Propionic Acid Dicamba (3, 6-Dicholoro-o-anisic Acid)	32.48% 15.90% 5.38%					
	Product Trade Name: BK-800 or equal NO BID						
	EPA Registration Number: _____						
	A) Supplied in 2.5 gallon containers in lots of 5 gallons B) Supplied in 30 gallon drums		100 100	gallon gallon		NO BID NO BID	
DOH-17H	Dry Flowable Containing: Tebuthiuron	80%					
	Product Trade Name: Spike 80 DF _____						
	EPA Registration Number: 62719-107						
	A) Supplied in 4 pound bags in lots of 24 pounds B) Supplied in 25 pound bags		50 50	pound pound	\$ 22.00 \$ 20.00	\$ 528.00 \$ 500.00	
DOH-18H	A Water Soluble Emulsifiable Concentrate Containing: Clopyralid	3 lbs/gallon					
	Product Trade Name: Transline _____						
	EPA Registration Number: 62719-259						
	A) Supplied in 2.5 gallon containers in lots of 5 gallons B) Supplied in .5 gallon containers in lots of 2 gallons		25 25	gallon gallon	\$ 130.00 \$ 132.00	\$ 650.00 \$ 264.00	
DOH-19H	Aqueous Solution Containing: Isopropylamine Salt of Imazapyr	27.60%					
	Product Trade Name: Stalker _____						
	EPA Registration Number: 241-398						
	A) Supplied in 1 quart containers in lots of 4 quarts		200	quart	\$ 72.00	\$ 288.00	
DOH-20H	Aqueous Solution Containing: Diglycolamine Salt of 3, 6-Dichloro-O-Anisic Acid	4 lbs/gallon					
	Product Trade Name: Vanquish _____						
	EPA Registration Number: 100-884						
	A) Supplied in 2.5 gallon containers in lots of 5 gallons B) Supplied in 15 gallon returnable/refillable containers in pallets of 9 containers.		300 300	gallon gallon	\$ 61.64 \$ 61.64	\$ 308.20 \$ 8,321.40	

Vice President Mar 12, 2012

Fein 2312-77550

ph 717-766-6661

13 Herbicide Bid Schedule

6612C015 Arborchem (Div. of Asplundh Tree)

HERBICIDES		Description	% Concentration/ Pounds per Gallon of Active Ingredients	Estimated Quantity	Unit of Measure		Cost Per Unit of Measure	Extended Cost
Item #								
DOH-27H	A Dispersible Granule Containing: Imazapyr Diuron		7.78% 62.22%	50	pound	11.00	440.00	
	Product Trade Name: Sahara DG or equal _____ Imazuron _____							
	EPA Registration Number: _____ 228-654 _____							
	A) Supplied in 10 pound bags in lots of 40 pounds							
DOH-28H	A Water Soluble Dry Granule Containing: Sulfosulfuron		75%	400	ounce	NO BID		
	Product Trade Name: Outrider or equal _____ No Bid _____							
	EPA Registration Number: _____							
	A) Supplied in 20 ounce bottles in lots of 200 ounce							
DOH-29H	A Liquid Containing: Diuron		40%					
	Product Trade Name: Direx 4L _____ NO Bid _____							
	EPA Registration Number: _____							
	A) Supplied in 2.5 gallon containers in lots of 5 gallons							
DOH-30H	A Liquid Containing: Fluroxypyr		26.20%	50	gallon	No Bid		
	Product Trade Name: Fluroxypyr or equal _____ NO Bid _____							
	EPA Registration Number: _____							
	A) Supplied in 2.5 gallon containers in lots of 5 gallons							
DOH-31H	A Liquid Containing: Fluroxypyr		45.52%	100	gallon	NO BID		
	Product Trade Name: Vista XRT II _____							
	EPA Registration Number: _____ 62719-596 _____							
	A) Supplied in 2.5 gallon containers in lots of 5 gallons							
DOH-32H	Wettable Granule Formulation Containing: Sodium Salt of Diflufenzopy: 2-[1-({3,5-Difluorophenylamino} Carbonyl)] Hydrazono} Ethyl)-3-Pyridinecarboxylic Acid, Sodium Sodium Salt of 3,6-Dichloro-o-anisic Acid		21.40% 55.00%	100	gallon	166.00	830.00	
	Product Trade Name: Overdrive _____							
	EPA Registration Number: _____ 7969-150 _____							
	A) Supplied in 7.5 pound jugs, 30 pounds per case							

Vice President Mar 12, 2012

Fein 2312-77550

ph 717-766-6661

13 Herbicide Bid Schedule

6612C015 Arborchem (Div. of Asplundh Tree)

HERBICIDES		Description	% Concentration/ Pounds per Gallon of Active Ingredients	Estimated Quantity	Unit of Measure	Cost Per Unit of Measure	Extended Cost
Item #							
DOH-33H	Dispersible Granules Containing: Sulfometuron Methyl Chlorsulfuron		56.25% 18.75%				
	Product Trade Name: Landmark XP						
	EPA Registration Number: 352-645						
	A) Supplied in 4 pound jugs in lots of 32 pounds B) Supplied in 64 ounce jug, returnable/refillable			100 1600	pound ounce	\$ 130.64 \$ 8.14	\$ 4,180.48 \$ 520.96
DOH-34H	Dispersible Granules Containing: Sulfometuron Methyl Metsulfuron Methyl		56.25% 15.00%				
	Product Trade Name: Oust Extra						
	EPA Registration Number: 352-622						
	A) Supplied in 4 pound jugs in lots of 32 pounds B) Supplied in 64 ounce jug, returnable/refillable C) Supplied in 12 pound jugs			400 6400 400	pound ounce pound	\$ 65.50 \$ 4.09 \$ 65.50	\$ 2,096.00 \$ 261.76 \$ 786.00
DOH-35H	A Dry Flowable Granule Containing: Bromacil Diuron		40% 40%				
	Product Trade Name: Krovar I DF						
	EPA Registration Number: 352-505						
	A) Supplied in 6 pound containers in lots of 8 containers			50	pound	\$ 12.09	\$ 580.32
DOH-36H	A Liquid Containing: Imazapic Glyphosate		8.13% 21.94%				
	Product Trade Name: Journey						
	EPA Registration Number: 241-417						
	A) Supplied in 2.5 gallon containers in lots of 5 gallons			100	gallon	\$ 100.38	\$ 501.90

Vice President Mar 12, 2012

Fein 2312-77550

ph 717-766-6661



13 Herbicide Bid Schedule

6612C015 Arborchem (Div. of Asplundh Tree)

HERBICIDES							
Item #	Description	% Concentration/ Pounds per Gallon of Active Ingredients	Estimated Quantity	Unit of Measure	Cost Per Unit of Measure	Extended Cost	
DOH-37H	A Liquid Containing: Dimethylamine Salt of 2,4-Dichlorophenoxyacetic Acid Dimethylamine Salt of Dicamba (3,6-Dichloro-o-Anisic Acid)	24.58% 12.82%					
	Product Trade Name: Veteran 720						
	EPA Registration Number: 228-295						
	A) Supplied in 2.5 gallon containers in lots of 5 gallons B) Supplied in 30 gallon drums		100 100	gallon gallon	30.58	152.90 NO Bid	
DOH-38H	Dispersible Granules Containing: Chlorsulfuron Sulfometuron Methyl Sulfentrazone	9% 18% 48%					
	Product Trade Name: Throttle XP						
	EPA Registration Number: 352-725						
	A) Supplied in 3.9 pound containers, 8 containers per case		100	pound	109.48	426.97	
DOH-39H	Water Soluble Dispersible Extruded Paste Granule Containing: Aminocyclopyrachlor Chlorsulfuron	39.50% 15.80%					
	Product Trade Name: Perspective™						
	EPA Registration Number: 352-846						
	A) Supplied in 20 ounce containers in lots of 240 ounces B) Supplied in 20 ounce jug C) Supplied in 5 pound containers in lots of 40 pounds D) Supplied in 5 pound jug		240 40 80 20	ounces ounces pounds pounds	4.61 4.61 73.65 73.65	1106.40 92.20 2946.00 368.25	
DOH-40H	Water Soluble Dispersible Extruded Paste Granule Containing: Aminocyclopyrachlor Metsulfuron methyl	39.50% 12.60%					
	Product Trade Name: Streamline™						
	EPA Registration Number: 352-848						
	A) Supplied in 3 pound containers in lots of 24 pounds B) Supplied in 3 pound jug		96 96	pounds pounds	82.40 82.40	1977.60 247.20	

Vice President Mar 12, 2012

Fein 2312-77550

ph 717-766-6661

13 Herbicide Bid Schedule

6612C015 Arborchem (Div. of Asplundh Tree)

HERBICIDES		Description	% Concentration/ Pounds per Gallon of Active Ingredients	Estimated Quantity	Unit of Measure	Cost Per Unit of Measure	Extended Cost
Item #							
DOH-41H		Water Soluble Dispersible Extruded Paste Granule Containing:					
		Imazapry	31.60%				
		Aminocyclopyrachlor	22.80%				
		Metsulfuron methyl	7.30%				
		Product Trade Name: Viewpoint™					
		EPA Registration Number: 352-847					
		A) Supplied in 5 pound containers in lots of 40 pounds		100	pounds	58.71	2348.40
		B) Supplied in 5 pound jug		100	pounds	58.71	293.55

Vice President Mar 12, 2012

Fein 2312-77550

ph 717-766-6661



13 Herbicide Bid Schedule

6612C015 (Div. of Asplundh Tree)

ADJUVANTS		Estimated Quantity	Unit of Measure	Cost Per Unit of Measure	Extended Cost
Item #	Description				
DOH-1A	A Water Soluble Blue Liquid Spray Pattern Indicator Product Trade Name: Bullseye or equal NO BID A) Supplied in 2.5 gallon containers in lots of 5 gallons.	100	gallon		NO BID
DOH-2A	A Miscible-Dispersible Liquid Defoamer (30% Active Ingredient) Product Trade Name: Arborchem Liquid Defoamer A) Supplied in quarts containers in lots of 12	100	gallon	\$ 7.90	\$ 94.80
DOH-3A	A Diluent with Emulsifiers Product Trade Name: Arborchem Basal Oil				
DOH-4A	A) Supplied in 2 1/2 containers in lots of 5 gallons Non-ionic Surfactant (90% Active Ingredient) Product Trade Name: Chemsurf 90 A) Supplied in 2 1/2 containers in lots of 5 gallons	100	gallon	\$ 10.00	\$ 50.00
DOH-5A	A Granular/Flake Drift Control Agent Product Trade Name: 41-A A) Supplied in 32 oz cont. containers in lots of 12	100	pound	\$ 14.72	\$ 176.64
DOH-6A	A Liquid Drift Control Agent Product Trade Name: NO BID A) Supplied in containers in lots of	100	gallon		NO BID
DOH-7A	Aquatic Surfactant Product Trade Name: Chemsurf 90 A) Supplied in 2 1/2 containers in lots of 5 gallon	100	gallon	\$ 10.29	\$ 51.45
DOH-8A	A Water Soluble Liquid Spray Pattern Indicator Product Trade Name: Blueprint Plus or equal HI-Light A) Supplied in 2.5 gallon containers in lots of 5 gallons.	100	gallon	\$ 35.94	\$ 179.70
DOH-9A	A Non-Ionic Sticker Spreader Product Trade Name: Nu-Film-IR A) Supplied in 2.5 gallon containers in lots of 5 gallons	100	gallon	\$ 35.33	\$ 176.75
DOH-10A	A Ready-to-Use Formula Containing Paraffinic Oil Emulsifiers Product Trade Name: Thinvert RTU A) Supplied in 2.5 gallon containers in lots of 5 gallons per case. B) Supplied in 15 gallon drum.	100	gallon	\$ 14.00	\$ 70.00
		100	gallon	\$ 13.50	\$ 202.50

13 Herbicide Bid Schedule

6612C015

Arborchem (Div. of Asplundh)

ADJUVANTS		Estimated Quantity	Unit of Measure	Cost Per Unit of Measure	Extended Cost
Item #	Description				
DOH-11A	A Concentrate Formula Containing Paraffinic Oil Emulsifiers and Surfactants Product Trade Name: Thinvert RTU or equal ___ Thinvert Concentrate A) Supplied in 2.5 gallon containers in lots of 5 gallons per case. B) Supplied in 15 gallon drum.	100 100	gallon gallon	26.00 26.00	130.00 390.00
SAFETY EQUIPMENT					
Item #	Description	Estimated Quantity	Unit of Measure	Cost Per Unit of Measure	Extended Cost
DOH-1S	Emergency Spill Kit Containing: 15 Universal Plus Sorbent Pads 3 Cobra Coils 1 Pair Safety Goggles 1 Pair Latex Gloves 1 Large Refuse Bag 1 List of Environmental Compliance Telephone Numbers Size: 18"x18"x4" Vacuum Packed in Puncture Resistant Foil Product Trade Name: ___ Attack Pac A) Supplied by the kit.	1	each	60.00	60.00
DOH-2S	A Granular/Flake Spill Absorbent Product Trade Name: ___ Spill Gaurd A) Supplied in ___ 2 1/2 lb ___ containers in lots of ___ 4 ___.	1	pound	5.60	56.00
DOH-3S	32 ounce Eye Wash Bottle Product Trade Name: ___ Bel-Art A) Supplied per each.	1	each	19.00	19.00

Vice President Mar 12, 2012

Fein 2312-77550

ph 717-766-666



13 Herbicide Bid Schedule

6612C015

Arborchem (Div. of Asplundh)

MISCELLANEOUS		Description	Estimated Quantity	Unit of Measure	Cost Per Unit of Measure	Extended Cost
Item #						
DOH-1M	Pressure Rinser					
	Product Trade Name: Easy Rinse					
	A) Supplied per each.		1	each	\$ 90.00	\$ 90.00
DOH-2M	Hand Soap with Citrus Oil					
	Product Trade Name: Zep Hand Cleaner					
	A) Supplied in 32 ounce containers in lots of 20 containers per case		1	container	\$ 4.55	\$ 91.00
DOH-3M	A Biostimulant Containing					
	Soluble Potash	1.00%				
	Iron	0.36%				
	Manure Extract	79.30%				
	Humic and Fulvic Acid Extract	9.00%				
	Kelp Extract	1.20%				
	Organo-Modified Silaxane Surfactant	0.36%				
	Product Trade Name: Launch or equal					
	A) Supplied in 2.5 gallon containers in lots of 5 gallons		2.5	gallon		NO BID
DOH-4M	Nitri-Solve 100% - 15 mil 13" Nitrile Gloves - Compliance EPA 40 CFR 170					
	A) Supplied size Small.		1	pair	\$ 5.00	\$ 5.00
	B) Supplied size Medium.		1	pair	\$ 5.00	\$ 5.00
	C) Supplied size Large.		1	pair	\$ 5.00	\$ 5.00
	D) Supplied size X-Large.		1	pair	\$ 5.00	\$ 5.00
	E) Supplied size XX-Large.		1	pair	\$ 5.00	\$ 5.00
DOH-5M	A 5-gallon Backpack Sprayer					
	Product Trade Name: Birchmeier					
	A) Supplied per sprayer		1	each	\$ 233.80	\$ 233.80
	B) Gasket Set for Sprayer Pump		1	set	\$ 18.90	\$ 18.90
	C) Hose Valve and Wand Repair Kit		1	kit	\$ 20.16	\$ 20.16
DOH-6M	2-Quart Handheld Pressure Sprayer					
	Product Trade Name: Tolco					
	A) Supplied per sprayer		1	each	\$ 17.74	\$ 17.74

Vice President Mar 12, 2012

Fein 2312-77550

ph 717-766-666



13 Herbicide Bid Schedule

6612C015

Arborchem (Div. of Asplundh)

MISCELLANEOUS		Estimated Quantity	Unit of Measure	Cost Per Unit of Measure	Extended Cost
Item #	Description				
DOH-7M	Closed System Backpack Sprayer				
	Product Trade Name: Birchmeier BCS _____				
	A) Supplied per sprayer	1	each	\$ 287.00	\$ 287.00
	B) Gasket Set for Sprayer Pump	1	set	\$ 18.90	\$ 18.90
	C) Hose Valve and Wand Repair Kit	1	kit	\$ 20.16	\$ 20.16

Vice President Mar 12, 2012

Fein 2312-77550

ph 717-766-6666



State of West Virginia

VENDOR PREFERENCE CERTIFICATE

Certification and application* is hereby made for Preference in accordance with **West Virginia Code**, §5A-3-37. (Does not apply to construction contracts). **West Virginia Code**, §5A-3-37, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the **West Virginia Code**. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Resident Vendor Preference, if applicable.

1. **Application is made for 2.5% resident vendor preference for the reason checked:**
☐ Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; **or**,
☐ Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; **or** 80% of the ownership interest of Bidder is held by another individual, partnership, association or corporation resident vendor who has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; **or**,
☒ Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; **or**,
2. **Application is made for 2.5% resident vendor preference for the reason checked:**
☐ Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; **or**,
3. **Application is made for 2.5% resident vendor preference for the reason checked:**
☒ Bidder is a nonresident vendor employing a minimum of one hundred state residents or is a nonresident vendor with an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia employing a minimum of one hundred state residents who certifies that, during the life of the contract, on average at least 75% of the employees or Bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; **or**,
4. **Application is made for 5% resident vendor preference for the reason checked:**
☒ Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; **or**,
5. **Application is made for 3.5% resident vendor preference who is a veteran for the reason checked:**
☐ Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; **or**,
6. **Application is made for 3.5% resident vendor preference who is a veteran for the reason checked:**
☐ Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.

Bidder understands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the requirements for such preference, the Secretary may order the Director of Purchasing to: (a) reject the bid; or (b) assess a penalty against such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency or deducted from any unpaid balance on the contract or purchase order.

By submission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and authorizes the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid the required business taxes, provided that such information does not contain the amounts of taxes paid nor any other information deemed by the Tax Commissioner to be confidential.

Under penalty of law for false swearing (**West Virginia Code**, §61-5-3), Bidder hereby certifies that this certificate is true and accurate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate changes during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.

Bidder: Arborchem (Div of Asplundh)

Signed: 

Date: 3-6-2012

Title: Vice President

*Check any combination of preference consideration(s) indicated above, which you are entitled to receive.



**State of West Virginia
DRUG FREE WORKPLACE CONFORMANCE AFFIDAVIT
West Virginia Code §21-1D-5**

STATE OF Pennsylvania

COUNTY OF Cumberland, TO-WIT:

I, Joe Lentz, after being first duly sworn, depose and state as follows:

1. I am an employee of Arborchem (Div. of Asplundh); and,
(Company Name)
2. I do hereby attest that Arborchem (Div. of Asplundh)
(Company Name)

maintains a valid written drug free workplace policy and that such policy is in compliance with **West Virginia Code §21-1D-5**.

The above statements are sworn to under the penalty of perjury.

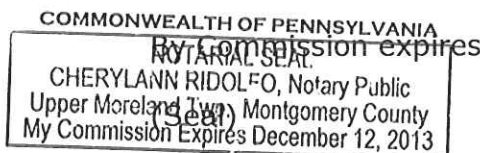
Arborchem (Div. of Asplundh)
(Company Name)

By: Joe Lentz

Title: Vice President

Date: 3-1-12

Taken, subscribed and sworn to before me this 1st day of March 2012



12/12/13

Cherylanne Ridolfo
(Notary Public)

THIS AFFIDAVIT MUST BE SUBMITTED WITH THE BID IN ORDER TO COMPLY WITH WV CODE PROVISIONS. FAILURE TO INCLUDE THE AFFIDAVIT WITH THE BID SHALL RESULT IN DISQUALIFICATION OF THE BID.

STATE OF WEST VIRGINIA
Purchasing Division**PURCHASING AFFIDAVIT**

West Virginia Code §5A-3-10a states: No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate.

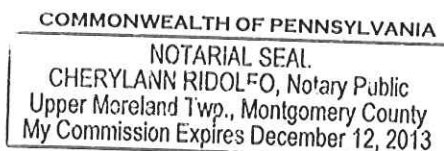
DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Debtor" means any individual, corporation, partnership, association, limited liability company or any other form or business association owing a debt to the state or any of its political subdivisions. "Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities. "Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

EXCEPTION: The prohibition of this section does not apply where a vendor has contested any tax administered pursuant to chapter eleven of this code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

Under penalty of law for false swearing (*West Virginia Code* §61-5-3), it is hereby certified that the vendor affirms and acknowledges the information in this affidavit and is in compliance with the requirements as stated.

WITNESS THE FOLLOWING SIGNATUREVendor's Name: Arborchem Products (Div. of Asplundh Tree Expert Co.)Authorized Signature: [Signature] Date: 3-1-12State of PennsylvaniaCounty of Cumberland, to-wit:Taken, subscribed, and sworn to before me this 1st day of March, 2012.My Commission expires 12/12, 2013.**AFFIX SEAL HERE**NOTARY PUBLIC [Signature]



Applicator ID: C04461 **Expiration Date:** 12/31/2012
Applicator Type: Commercial
Name: KRAUSE, DAVID
Company: ASPLUNDH TREE EXPERT COMPANY
Address: 322 COOLVIEW DR.
City, State, Zip: ROANOKE, WV 26447
County: LEWIS

[Renew Your License Online](#)

**Applicator
Categories:**

7 - Right-of-Way/Industrial Weed (expires 2014) [Approved Recert.
programs for this category](#)

12 - Pesticide Storage & Distribution (expires 2015) [Approved Recert.
programs for this category](#)

Certification Summary			
Course ID	Category	Date	Current Credits

**Need this DATA as a
Database or Mailing Labels?**

DOWNLOAD: MS-Access database,
CSV file, Word mail-merge...



**Try Our
LISTS ON DEMAND!**

[CLICK HERE](#)

If you have suggestions for new features, please E-Mail us at developer@kellyreg.com.

If you find erroneous data, please call Florenda Hill (Private Applicators) at (304) 558-2209 or Kathy Martin (Commercial Applicators and Pesticide Businesses) at (304) 558-2209. We will respond to all inquiries as soon as possible.

Date Last Updated: 3/6/2012

2 H

Specimen Label



Accord® XRT II

Herbicide

*Trademark of Dow AgroSciences LLC

A non-selective broad-spectrum systemic herbicide for control of annual and perennial weeds and woody plants in noncrop areas and industrial sites, such as utility, railroad and roadside rights-of-way, airports, natural and production (plantations) forests for site preparation, mid-rotation release treatments, and timber stand improvement activities, wildlife and habitat management areas, wildlife openings, natural areas, such as wildlands, campgrounds, parks and recreational areas, wildlife refuges, rangeland and in and around seasonally dry wetlands including ditchbanks, dry ditches and dry canals and grazed areas on listed noncrop sites

Avoid contact of herbicide with foliage, green stems, exposed non-woody roots or fruit of crops, desirable plants and trees, because severe injury or destruction may result.

Active Ingredient:

glyphosate: N-(phosphonomethyl)glycine, dimethylamine salt	50.2%
Other Ingredients	49.8%
Total Ingredients	100.0%

Contains 5.4 pounds per gallon glyphosate, dimethylamine salt (4 pounds per gallon glyphosate acid).

EPA Reg. No. 62719-556

Keep Out of Reach of Children

CAUTION

Precautionary Statements

Hazards to Humans and Domestic Animals

Causes Moderate Eye Irritation • Prolonged or Frequently Repeated Skin Contact May Cause Allergic Reactions in Some Individuals

Avoid contact with skin, eyes or clothing.

Personal Protective Equipment (PPE)

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:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material such as natural rubber
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE (Personal Protective Equipment). If no such instructions 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 that meets the requirements listed in 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.

User Safety Recommendations

Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

First Aid

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

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.

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.

Domestic Animals: This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

Environmental Hazards

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 cleaning equipment or disposing of equipment washwaters.

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 that may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

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 inconsistent with its labeling.

Read all Directions for Use carefully before applying.

This is an end-use product. Dow AgroSciences does not intend and has not registered it for reformulation.

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

Agricultural Use Requirements

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves made of any waterproof material such as natural rubber
- 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, forests, nurseries or greenhouses.

Keep people and pets off treated areas until spray solution has dried.

Storage and Disposal

Pesticide Storage: Do not contaminate water, food, feed or seed by storage or disposal.

Pesticide Disposal: Wastes of this pesticide may cause eye and skin irritation and may be dangerous. Improper disposal of excess pesticide, spray mixtures, or rinsate is a violation of Federal law. If these wastes cannot be disposed of according to label use instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Nonrefillable containers 5 gallons or less:

Container Reuse: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available.

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

Refillable containers larger than 5 gallons:

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

Storage and Disposal (Cont.)

Nonrefillable containers larger than 5 gallons:

Container Reuse: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

General Information (How this product works)

Accord® XRT II herbicide is a broad-spectrum systemic herbicide with no soil residual activity and is intended for control of annual and perennial weeds and woody plants in noncrop areas and industrial sites, such as utility, railroad and roadside rights-of-way, airports, natural and production (plantations) forests for site preparation, mid-rotation release treatments, and timber stand improvement activities, wildlife and habitat management areas, wildlife openings, natural areas, such as wildlands, campgrounds, parks and recreational areas, wildlife refuges, rangeland and in and around seasonally dry wetlands including ditchbanks, dry ditches and dry canals and grazed areas on listed noncrop sites.

It is permissible to treat non-irrigation ditch banks, seasonally dry wetlands, flood plains, deltas, marshes, swamps, bogs, and transitional areas between upland and lowland sites. Do not apply to open water such as lakes, reservoirs, rivers, streams, creeks, salt water bays, or estuaries.

This product is generally non-selective and gives broad-spectrum control of many annual weeds, perennial weeds, woody brush and trees. It is formulated as a water-soluble liquid. It may be applied through most standard industrial or field-type sprayers after dilution and thorough mixing with water or other carriers according to label instructions.

Although not generally required, surfactant may be added to highly dilute spray solutions or when the application rate being used is at the low end of the effective rate range.

Nonionic surfactants that are labeled for use with herbicides may be used. Do not reduce rates of this product when adding surfactant. When using additional surfactant, a surfactant concentration of 0.125 to 0.25 percent (1 to 2 pints per 100 gallons of spray solution) is specified for surfactants containing 70 percent or more active ingredient. Read and follow the precautionary statements and applicable use directions on the label of the surfactant product.

Time to Symptoms: The active ingredient in this product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most perennial weeds may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow activity of this product and delay development of visual symptoms. Visible effects are a gradual wilting and yellowing of the plant that advances to complete browning of above ground growth and deterioration of underground plant parts.

Stage of Weeds: Annual weeds are easiest to control when they are small. Best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity. Refer to the annual, perennial, woody brush and trees rate tables for directions for specific weeds.

Always use the higher rate of this product per acre within the specified range when weed growth is heavy or dense or weeds are growing in an undisturbed (noncultivated) area.

Do not treat weeds under poor growing conditions such as drought stress, disease or insect damage, as reduced weed control may result. Reduced herbicidal activity may also occur when treating weeds heavily covered with dust.

Cultural Considerations: Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed, or cut, and have not been allowed to regrow to the specified stage for treatment.

Rainfastness: Heavy rainfall soon after application may wash this product off of the foliage and a repeat application may be required for adequate control.

Spray Coverage: For best results, spray coverage should be uniform and complete. Do not spray weed foliage to the point of runoff.

Mode of Action: The active ingredient in this product inhibits an enzyme found only in plants that is essential to formation of specific amino acids.

No Soil Activity: Weeds must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Unemerged plants arising from unattached underground rhizomes or rootstocks of perennials will not be affected by the herbicide and will continue to grow.

Biological Degradation: Degradation of this product is primarily a biological process carried out by soil microbes.

Tank Mixing: 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. Use according to the most restrictive label directions for each product in the mixture.

Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly directed in this labeling. Mixing this product with herbicides or other materials not specified on this label may result in reduced performance.

Annual Maximum Use Rate: For noncrop uses, the combined total of all treatments must not exceed 8 quarts of this product per acre per year. The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated use rate.

Attention

Avoid contact of herbicide with foliage, green stems, exposed non-woody roots or fruit of crops, desirable plants and trees, because severe injury or destruction may result.

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 injury occurring from the use of this product increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing or when there are other meteorological conditions that favor spray drift. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift. **Avoid applying at excessive speed or pressure.**

NOTE: Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences. Keep container closed to prevent spills and contamination.

Mixing

Clean sprayer parts immediately after using this product by thoroughly flushing with water.

NOTE: reduced results may occur if water containing soil is used, such as visibly muddy water or water from ponds and ditches that is not clear.

Mixing with Water

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the specified amount of this product near the end of the filling process and mix well. Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices where required by state or local regulations. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

Tank Mixing Procedure

Mix labeled tank mixtures of this product with water as follows:

1. Place a 20 to 35 mesh screen or wetting basket over filling port.
2. Through the screen, fill the spray tank one-half full with water and start agitation.
3. If a wettable powder is used, make a slurry with the water carrier, and add it **slowly** through the screen into the tank. Continue agitation.
4. If a flowable formulation is used, premix one part flowable with one part water. Add diluted mixture **slowly** through the screen into the tank. Continue agitation.
5. If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water. Add diluted mixture slowly through the screen into the tank. Continue agitation.
6. Continue filling the spray tank with water and add the required amount of this product near the end of the filling process.
7. Add individual formulations to the spray tank as follows: wettable powder, flowable, drift control additive, water-soluble liquid and emulsifiable concentrate.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

Keep by-pass line on or near the bottom of the tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh.

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance.

Refer to the "Tank Mixing" section under "General Information" for additional precautions.

Ammonium Sulfate

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product, particularly when tank mixed with certain residual herbicides on annual and perennial weeds. The equivalent rate of ammonium sulfate in a liquid formulation may also be used. Ensure that ammonium sulfate is completely dissolved in the spray tank before adding herbicides. Thoroughly rinse the spray system with clean water after use to reduce corrosion.

Note: When using ammonium sulfate, apply this product at rates listed in this label. Lower rates will result in reduced performance.

Colorants or Dyes

Agriculturally-approved colorants or marking dyes may be added to 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 directions.

Drift Control Additives

Drift control additives may be used with all equipment types, except wiper applicators, sponge bars and CDA equipment. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

Application Equipment and Techniques

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

this product may be applied with the following application equipment:

Aerial: Fixed Wing and Helicopter

Ground Broadcast Spray: Boom or boomless systems, pull-type sprayer, floaters, pick-up sprayers, spray coupes and other ground broadcast equipment.

Hand-Held and High-Volume Spray Equipment: Knapsack and backpack sprayers, pump-up pressure sprayers, handguns, hand wands, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage.

Selective Equipment: Recirculating sprayers, shielded and hooded sprayers, wiper applicators and sponge bars.

Injection Systems: Aerial or ground injection sprayers.

Controlled Droplet Applicator (CDA): Hand-held or boom-mounted applicators, which produce a spray, consisting of a narrow range of droplet sizes.

Apply these spray solutions in properly maintained and calibrated equipment capable of delivering desired volumes.

Injection and Frill Application (Woody Brush and Trees): Use suitable equipment that will deliver this product into the living tissue of trees and brush.

Cut Stump Application: Apply using suitable equipment to ensure coverage of the entire cambium of cut stems.

Aerial Equipment

Do not apply this product using aerial spray equipment except under conditions as specified within this label.

For aerial application in California, refer to the federal supplemental label entitled "For Aerial Application in California Only" for aerial applications in that state for specific instructions, restrictions and requirements. In California, aerial application may be made for forestry site preparation and in noncrop areas. In California, this product is allowed for aerial application by helicopter only.

Tank mixtures of this product plus Oust, dicamba or 2,4-D herbicide may not be applied by air in California.

Use the specified rates of this herbicide in 3 to 15 gallons of water per acre unless otherwise specified on this label. Unless otherwise specified, do not exceed 24 fluid ounces per acre. Refer to the individual use area sections of this label for volumes and application rates.

Avoid direct application to any body of water.

AVOID DRIFT: do not apply during low-level inversion conditions, when winds are gusty or under any other condition which favors drift. Drift may cause damage to any vegetation contacted to which treatment is not intended. To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained.

Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations that dispense spray as fine spray droplets. Do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure.

Ensure uniform application: To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. **Prolonged exposure of this product to uncoated steel surfaces may result in corrosion and possible failure of the part. Landing gear are most susceptible.** The maintenance of an organic coating (paint), which meets aerospace specification MIL-C-38413, may prevent corrosion.

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 requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications 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 states have more stringent regulations, they should be observed.

The applicator should be familiar with 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 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 Inversion section of this label).

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 - Use the lower spray pressures 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 that provide uniform coverage.

Nozzle Orientation - Orienting nozzles so that the spray is released backwards, parallel to the airstream will produce larger droplets than other orientations. 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 nozzle types, narrower spray angles produce larger droplets. Consider using low-drift 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 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

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

Wind: Drift potential is lowest between wind speeds of 2-10 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 patterns. Every applicator should be familiar with local wind patterns and how they affect drift.

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

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

Use the specified rates of this product in sufficient spray volume per acre as a broadcast spray to provide complete and uniform coverage. As density of weeds increases, spray volume should be increased to ensure complete coverage. Use proper nozzles to avoid spraying a fine mist. For best results with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

Hand-Held and High-Volume Equipment

For applications made on a spray-to-wet basis, apply directly to foliage of vegetation to be controlled. Spray coverage should be uniform and complete. Do not spray to the point of runoff. Coarse sprays are required to reduce potential drift.

For control of weeds listed in the annual weeds rate tables, apply a 0.5 percent solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. For annual weeds over 6 inches tall, or unless otherwise specified, use a 1 percent solution.

Use a 1.5 percent solution on harder-to-control perennials, woody brush species and vines.

For low volume directed spray applications, use a 3.75 to 7.5 percent solution of this product for control or suppression of annual weeds, perennial weeds, or woody brush and trees. Spray coverage should be uniform with at least 50% of the foliage contacted. Coverage of the top one-half of the plant, including growing tip, is important for best results (over-the-top and top down coverage). To ensure adequate spray coverage, spray all sides of large or tall woody brush and trees, when foliage is thick and dense, or where there are dense or tall sprouts.

Mixing for Hand-held Sprayers

Prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:

Spray Solution

Spray Concentration (percent)	Amount of This Product for Desired Volume:		
	1 gal	25 gal	100 gal
0.5%	2/3 fl oz	1 pt	2 qt
0.75%	1 fl oz	24 fl oz	3 qt
1.0%	1 1/3 fl oz	1 qt	1 gal
1.5%	2 fl oz	1 1/2 qt	1 1/2 gal
2.0%	2 2/3 fl oz	2 qt	2 gal
3.75%	5 fl oz	3 3/4 qt	3 3/4 gal
5.0%	6 1/2 fl oz	5 qt	5 gal
10.0%	13 fl oz	10 qt	10 gal

2 tablespoons = 1 fluid ounce

For use in knapsack sprayers, it is suggested that the specified amount of this product be mixed with water in a larger container. Fill sprayer with the mixed solution.

Selective Equipment

This product may be mixed as directed and applied through recirculating spray systems, shielded sprayers, hooded sprayers, wiper applicators or sponge bars to listed weeds growing in any noncrop site specified on this label.

A recirculating spray system directs the spray solution onto weeds growing above desirable vegetation, while spray solution not intercepted by weeds is collected and returned to the spray tank for reuse.

A shielded or hooded applicator directs the herbicide solution onto weeds, while shielding desirable vegetation from the herbicide.

A wiper or sponge applicator applies the herbicide solution onto weeds by rubbing the weed with an absorbent material containing the herbicide solution.

Avoid contact of herbicide with desirable vegetation.

Contact of the herbicide solution with desirable vegetation may result in damage or destruction. Applicators used above desirable vegetation should be adjusted so that the lowest spray stream or wiper contact point is at least 2 inches above the desirable vegetation. Droplets, mist, foam or splatter of the herbicide solution settling on desirable vegetation may result in discoloration, stunting or destruction.

Applications made above desirable plants should be made when the weeds are a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

Shielded and hooded applicators

Use nozzles that provide uniform coverage within the treated area. Keep shields on these sprayers adjusted to protect desirable vegetation. **Extreme care must be exercised to avoid contact of herbicide with desirable vegetation.**

Wiper applicators and sponge bars

Wiper applicators are devices that physically wipe appropriate amounts of this product directly onto the weed.

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 mph. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if 2 applications are made in opposite directions.

Avoid leakage or dripping onto desirable vegetation. Adjust height of applicator to ensure adequate contact with weeds. Keep wiping surfaces clean. Be aware that, on sloping ground, the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of a wiper applicator.

Do not use wiper equipment when weeds are wet.

Mix only the amount of solution to be used during a 1-day period, as reduced activity may result from use of leftover solutions. Clean wiper parts immediately after using this product by thoroughly flushing with water.

For Rope or Sponge Wick Applicators: Mix 3 quarts of this product in 2 gallons of water to prepare a 25 percent solution. Apply this solution to weeds listed in this section.

For Porous-Plastic Applicators: Solutions ranging from 25 to 100 percent of this product in water may be used in porous-plastic wiper applicators.

Injection Systems

This product may be used in aerial or ground injection spray systems. It may be used as a liquid concentrate or diluted prior to injecting into the spray stream. Do not mix this product with the concentrate of other products when using injection systems.

CDA Equipment

The rate of this product applied per acre by vehicle-mounted controlled droplet application (CDA) equipment should not be less than the amount specified in this label for conventional broadcast applications. For vehicle-mounted and hand-held CDA equipment, use spray volumes and application techniques specified by the manufacturer.

Note: Controlled droplet application equipment produces a spray pattern that is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction may result.

Injection and Frill Application (Woody Brush and Trees)

Types of Application: Injection and frill application may be used in any noncrop site listed on this label

This product may be used to control woody brush and trees by injection or frill applications. Apply this product using suitable equipment that must penetrate into the living tissue. Apply the equivalent of 1 ml of this product per each 2 to 3 inches of trunk diameter at breast height (DBH). This is best achieved by applying a 40 to 100 percent concentration of this product either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frilled or cut areas in species that exude sap freely. In species such as this, make the frill or cuts at an oblique angle to produce a cupping effect and use a 100 percent concentration of this product. For best results, applications should be made during periods of active growth and after full leaf expansion.

Cut Stump Application

Woody vegetation may be controlled by treating freshly cut stumps of trees and resprouts with this product.

Types of Application: Treating cut stumps in any noncrop site listed on this label

Specific Use: This product will control regrowth of cut stumps and resprouts of many types of woody brush and tree species, some of which are listed below. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 40 to 100 percent solution of this product to the freshly cut surface **immediately** after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

Precautions and Restrictions: Do not make cut stump applications when the roots of desirable woody brush or trees may be grafted to the roots of the cut stump. Injury resulting from root grafting can occur in adjacent woody brush or trees of the same or closely related species. Different woody species growing in close proximity do not typically form root grafts.

Forestry Site Preparation

This product herbicide is specified for the control or partial control of woody brush, trees and herbaceous weeds in forestry. This product is also specified for use in preparing or establishing wildlife openings within these sites and maintaining logging roads.

In forestry sites, this product is specified for use in site preparation prior to planting any tree species, including Christmas trees, eucalyptus, hybrid tree cultivars and silvicultural nursery sites. Unless otherwise specified, applications of this product may be made for control or partial control of herbaceous weeds, woody brush and trees listed in the "Weeds Controlled" section of the product label for this product.

Application Rates:

Method of Application	Application Rate	Spray Volume (gal/acre)
Broadcast		
Aerial	1.5 to 8.0 qt/acre	5 to 30
Ground	1.5 to 8.0 qt/acre	10 to 60
Spray-to-Wet		
Handgun	0.75 to 1.5% by volume	spray-to-wet
Backpack		
Low Volume Directed Spray¹¹		
Handgun	3.75% to 7.5% by volume	partial coverage
Backpack		

¹¹ 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-half of the plant including the growing tip is important (over-the-top and down coverage). To ensure adequate spray coverage, spray all sides of large or tall woody brush and trees, when foliage is thick and dense, or where there are multiple sense or tall sprouts.

Use higher rates of this product within the specified rate ranges for control or partial control of woody brush, trees and hard-to-control perennial herbaceous weeds. For best results, apply to actively growing woody brush and trees after full leaf expansion and before fall color and leaf drop. Use increased rates within the specified rate range to control perennial herbaceous weeds from emergence up to the appearance of seedheads, flowers or berries. Use lower rates within the rate range to control annual herbaceous weeds and actively growing perennial herbaceous weeds after seedheads, flowers or berries appear. Apply to foliage of actively growing annual herbaceous weeds anytime after emergence.

This product has no herbicidal or residual activity in the soil. Where repeat applications are necessary, do not exceed 8 quarts per acre per year.

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 limitations on the respective product labels. Use according to the most restrictive precautionary statements for each product in the mixture. Any specified rate of this product may be used in a tank mix.

Note: For forestry site preparation, make sure the tank mix product is approved for use prior to planting the desired species. Observe planting interval restrictions.

Any specified rate of this product may be used in a tank mix with the following products for forestry site preparation:

Product	Method of Application and Use Rates (Broadcast) ¹¹
Garlon® 3A ¹ herbicide	1 to 4 qt/acre
Garlon 4 herbicide	1 to 4 qt/acre
Arsenal Applicators Concentrate	2 to 16 fl oz/acre
Escort herbicide	1/2 to 1 1/2 oz/acre
Chopper herbicide	4 to 32 fl oz/acre
Oust herbicide	1 to 4 oz/acre
	Spray-to-Wet Rates
Arsenal Applicators Concentrate	1/32% to 1/2% by volume
	Low Volume Directed Spray Rates
Arsenal Applicators Concentrate	1/8% to 1/2% by volume

¹ Ensure that Garlon 3A is thoroughly mixed with water before adding this product. Agitation is required while mixing this product with Garlon 3A to avoid compatibility problems.

¹¹ For a tank mix partner, up to the maximum labeled rate for a treatment site may be applied in combination with this product.

For control of herbaceous weeds, use the lower specified tank mixture rates. For control of dense stands or difficult-to-control woody brush and trees, use the higher specified rates.

Aerial Equipment

For aerial application, apply this product in forestry sites by helicopter only. For details on aerial application, refer to "Aerial Equipment" in the "Application Equipment and Techniques" section of this label.

Ground Broadcast Equipment

This product is specified for broadcast applications using suitable ground equipment in forestry sites. For details on ground broadcast application, refer to "Ground Broadcast Equipment" in the "Application Equipment and Techniques" section of this label. Apply the specified rates of this product as a broadcast spray in sufficient spray volume to provide complete and uniform coverage of plant foliage, unless otherwise specified. Check for even distribution throughout the spray pattern.

Backpack and Handgun Equipment

This product is for application through backpack and handgun equipment. For details, refer to "Hand-Held and High Volume Equipment" in the "Application Equipment and Techniques" section of this label.

For spray-to-wet applications, coverage should be uniform and complete, but not to the point of runoff.

This product may be used for low volume directed sprays for spot treatment of trees and brush. It is most effective in areas where there is a low density of undesirable trees or brush. For flat fan and cone nozzles, spray the foliage of the targeted vegetation. Small, open branched trees need only be treated from one side. If the foliage is thick or there are multiple root sprouts, application must be made from several sides to ensure adequate spray coverage.

Mid-Rotation Conifer Release and Spot Treatments for Crop Tree Release and Timber Stand Improvement

This product is applied as a ground broadcast or directed spray application for mid-rotation release applications under the canopy of pines (and other conifers) and hardwoods. Applications must be made using application techniques that prevent or minimize direct contact to the foliage of crop trees (such as in stands of pine, other conifers or hardwood). This may be accomplished using directed sprays and ground equipment with nozzles oriented to target only undesirable understory vegetation below the crop tree canopy. This product is applied as a spot, individual plant treatment (see Hand-Held and High-Volume Equipment section of this label) for woody and herbaceous weeds. When making spot applications, do not allow spray to contact the foliage of desirable crop trees.

Wildlife Habitat Management and Restoration

Types of Uses: Habitat restoration and maintenance, wildlife food plots

Habitat restoration and maintenance

Specific Use: This product may be used to control exotic and other undesirable vegetation in habitat management and natural areas, including rangeland and wildlife refuges. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad-spectrum vegetation control requirements. Spot treatments can be made to selectively remove unwanted plants for habitat maintenance and enhancement.

Wildlife food plots

Specific Use: This product may be used as a site preparation treatment to control annual and perennial weeds prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage.

Parks, Recreational and Residential Areas

This product may be used in parks, recreational and residential areas. It may be applied with any application equipment described in this label. This product may be used to trim-and-edge around trees, fences, paths, around buildings, sidewalks, and other objects in these areas. This product may be used for spot treatment of unwanted vegetation. This product may be used to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

All of the instructions in the "General Noncrop Areas and Industrial Sites" section apply to park and recreational areas.

General Noncrop Areas and Industrial Sites

Labeled Use Sites: This product may be used in areas such as airports, apartment complexes, Christmas tree farms, ditch banks, dry ditches, dry canals, fencerows, golf courses, industrial sites, lumberyards, manufacturing sites, office complexes, ornamental nurseries, parks, parking areas, petroleum tank farms and pumping installations, railroads, recreational areas, residential areas, roadsides, sod or turf seed farms, schools, storage areas, utility substations, warehouse areas, other public areas, and similar industrial and noncrop sites and wildlife habitat management areas.

Types of Applications: General nonselective weed control, trim-and-edge, chemical mowing, cut stumps, injection and frill, habitat management.

This product may be used in general noncrop areas. It may be applied with any application equipment described in this label. This product may be used to trim-and-edge around objects in noncrop sites, for spot treatment of unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

Utility Sites

Labeled Use Sites: This product may be used in areas such as electrical power, pipeline, and telephone rights-of-way, and in other sites associated with these rights-of-way such as substations, roadsides, railroads or similar rights-of-way that run in conjunction with utilities and in general noncrop areas.

Types of Applications: General nonselective weed control, trim-and-edge, chemical mowing, cut stumps, injection and frill, habitat management.

This product may be applied with any application equipment described in this label. This product may be used to trim-and-edge around objects in these sites, for spot treatment of unwanted vegetation and to eliminate unwanted weeds, brush, vines and other vegetation growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area or prior to laying asphalt or beginning construction projects.

Railroads

All of the instructions in the "General Noncrop Areas and Industrial Sites" section apply to railroads.

Bare ground, Ballast and Shoulders, Crossings, and Spot treatment

This product may be used to maintain bare ground on railroad ballast and shoulders. Repeat applications of this product may be used, as weeds emerge, to maintain bare ground. This product may be used to control tall-growing weeds to improve line-of-sight at railroad crossings and reduce the need for mowing along rights-of-way. Apply the specified rate in sufficient spray volume to provide complete and uniform coverage of target vegetation, unless otherwise specified.

This product may be used in tank mix combination with other herbicide products labeled for use on non-cropland areas and industrial sites to broaden the spectrum of vegetation controlled. Follow applicable use directions, precautions and limitations on the respective product labels. Use according to the most restrictive precautionary statements for each product in the mixture.

Brush control

This product may be used to control woody brush and trees on railroad rights-of-way. Apply 3 to 8 quarts of this product per acre as a broadcast spray, using boom-type or boomless nozzles. Apply the specified rate in sufficient spray volume to provide complete and uniform coverage of target vegetation, unless otherwise specified. Apply a ¾ to 2 percent solution of this product when using high-volume spray-to-wet applications. Apply a 5 to 10 percent solution of this product when using low volume directed sprays for spot treatment. This product may be mixed with the following herbicide products for enhanced control of woody brush and trees:

Arsenal	Garlon 4
Escort	Tordon* K
Garlon 3A	

Bermudagrass release

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. Apply 0.75 to 2.25 pints of this product in up to 80 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass	Johnsongrass
Bluestem, silver	Trumpet creeper
Fescue, tall	Vaseygrass

This product may be tank-mixed with Oust. If tank-mixed, use no more than 0.75 to 2.25 pints of this product with 1 to 2 ounces of Oust per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

Bahiagrass	Fescue, tall
Blackberry	Johnsongrass
Bluestem, silver	Poorjoe
Broomsedge	Raspberry
Dallisgrass	Trumpet creeper
Dewberry	Vaseygrass
Dock, curly	Vervain, blue
Dogfennel	

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications in the same season are not specified, since severe injury may occur.

Roadsides

All of the instructions in the "General Noncrop Areas and Industrial Sites" section apply to roadsides.

Roadside Shoulder and Median treatments

This product may be used on road shoulders. It may be applied with boom sprayers, manifold nozzle systems, shielded boom sprayers, off-center nozzles and OC nozzle clusters, under-deck mowing + herbicide systems, hand-held equipment, and similar equipment.

Guardrails and other obstacles to mowing

This product may be used to control weeds growing under guardrails and around signposts and other objects along the roadside.

Spot treatment

This product may be used as a spot treatment to control unwanted vegetation growing along roadsides.

Tank mixtures

This product may be used in tank mix combination with other herbicide products labeled for use on non-cropland areas and industrial sites to broaden the spectrum of vegetation controlled. Follow applicable use directions, precautions and limitations on the respective product labels. Use according to the most restrictive precautionary statements for each product in the mixture.

Release of Bermudagrass or Bahiagrass Dormant applications

This product may be used to partially control many winter annual weeds and tall fescue for effective release of dormant bermudagrass or bahiagrass. Treat only when turf is dormant and prior to spring greenup. This product may also be tank-mixed with Oust for residual control. Tank mixtures of this product with Oust may delay greenup of bermudagrass. To avoid delay in greenup or severe damage to bahiagrass, use no more than 0.5 oz of Oust in tank mix combination with this product.

For best results on winter annuals, treat when plants are in an early growth stage (below 6 inches in height) after most have germinated. For best results on tall fescue, treat when fescue is at or beyond the 4- to 6-leaf stage.

Apply 6 to 48 fluid ounces of this product per acre alone or in a tank mixture with ¼ to 1 ounce per acre of Oust. Use sufficient spray volume for uniform coverage of target vegetation. Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. To avoid delays in greenup and minimize injury, add no more than 1 ounce of Oust per acre on bermudagrass and no more than 0.5 ounce of Oust per acre on bahiagrass and avoid treatments when these grasses are in a semi-dormant condition.

Actively growing bermudagrass

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. Apply up to 2.25 pints of this product in 10 to 40 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass	Johnsongrass
Bluestem, silver	Trumpet creeper
Fescue, tall	Vaseygrass

This product may be tank-mixed with Oust. If tank-mixed, use up to 1.5 pints of this product with 1 to 2 ounces of Oust per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

Bahiagrass	Fescue, tall
Bluestem, silver	Johnsongrass
Broomsedge	Poorjoe
Dallisgrass	Trumpet creeper
Dock, curly	Vaseygrass
Dogfennel	Vervain, blue

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications of the tank mix in the same season are not specified, since severe injury may occur.

Actively growing bahiagrass

For suppression of vegetable growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 4.5 fluid ounces of this product in 10 to 40 gallons of water per acre. Apply 1 to 2 weeks after full greenup or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 3 fluid ounces of this product per acre, followed by an application of 1.5 to 3 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

A tank mixture of this product plus Oust may be used. Apply 6 fluid ounces of this product plus 0.25 ounces of Oust per acre 1 to 2 weeks following an initial spring mowing. Make only one application per year.

General nonselective weed control, Trim-and-edge and Bare Ground

This product may be tank mixed with the following herbicide products. Refer to these product labels for labeled application sites and application rates. This product may be tank mixed with the products listed provided the product tank mixed is registered for use on this site. For annual weeds, use 1.5 pints per acre of this product when weeds are less than 6 inches tall and 2.25 pints per acre when weeds are greater than 6 inches tall. If weed growth is heavy or dense and/or growing in an undisturbed (non-cultivated) area and/or growing under stress, up to 3 quarts per acre may be applied. For perennial weeds, apply 1.5 to 3.75 quarts per acre in these tank mixes. For tank mixtures of this product with these products through backpack sprayers, handguns or other high-volume spray-to-wet applications, see the "Hand-Held and High Volume Equipment" section of this label for specified rates.

Arsenal	Plateau
Banvel (dicamba) †	Princep DF
Barricade 65WG	Princep Liquid
diuron †	Ronstar 50WP
Endurance	Sahara
Escort	simazine
Karmex DF	Surflan
Krovar I DF	Telar
Oust	Vanquish
Pendulum 3.3 EC	2,4-D †
Pendulum WDG	

† This product may be tank mixed with this product provided the label includes use on non-cropland and industrial sites.

Tank mixtures of this product with Oust, Banvel and 2,4-D may not be applied by air in California.

When applied as a tank mixture for bare ground, this product provides control of the emerged annual weeds and control or suppression of emerged perennial weeds, woody brush and trees.

For control or suppression of the following perennial weeds, apply 1.5 to 3 pints of this product plus 2 to 4 ounces of Oust per acre.

Bahiagrass	Fescue, tall
Bermudagrass	Johnsongrass
Broomsedge	Poorjoe
Dallisgrass	Quackgrass
Dock, curly	Vaseygrass
Dogfennel	Vervain, blue

Chemical mowing

Perennials: This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Apply this product at a rate of 4.5 to 6 fluid ounces per acre. Use 6 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass or quackgrass covers. Use 4.6 fluid ounces of this product per acre when treating Kentucky bluegrass. Apply treatments in 10 to 40 gallons of spray solution per acre.

Precautions and Restrictions: Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

Annuals: 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 3.75 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. Applications should be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments may cause injury to the desired grasses.

Dormant turfgrass

This product may be used to control or suppress many winter annual weeds and tall fescue for effective release of dormant bermudagrass and bahiagrass turf. Treat only when turf is dormant and prior to spring greenup.

Apply 6 to 48 fluid ounces of this product per acre. Apply the specified rates in 10 to 40 gallons of water per acre. Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated.

Treatments in excess of 12 fluid ounces per acre may result in injury or delayed greenup in highly maintained areas, such as golf courses and lawns. **Do not** apply tank mixtures of this product plus Oust in highly maintained turfgrass areas. For further uses, refer to the "Roadsides" section of this label, which gives rates for dormant bermudagrass and bahiagrass treatments.

Actively growing bermudagrass

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. **Do not** apply more than 12 fluid ounces of this product per acre in highly maintained turfgrass areas. **Do not** apply tank mixtures of this product plus Oust in highly maintained turfgrass areas. For further uses, refer to the "Roadsides" section of this label, which gives rates for bermudagrass treatments. Use only in areas where some temporary injury or discoloration can be tolerated.

Turfgrass Renovation, Seed, or Sod Production

This product controls most existing vegetation prior to renovating turfgrass areas or establishing turfgrass grown for seed or sod. For maximum control of existing vegetation, delay planting or sodding to determine if any regrowth from escaped underground plant parts occurs. When repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses such as bermudagrass, summer or fall applications provide the best control. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray.

Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow translocation into underground plant parts.

Desirable turfgrasses may be planted following the above procedures.

Hand-held equipment may be used for spot treatment of unwanted vegetation growing in existing turfgrass. Broadcast or hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

Do not feed or graze turfgrass grown for seed or sod production for 8 weeks following application.

Ornamentals, Plant Nurseries and Christmas Trees

Post-direct, Trim-and-edge: This product may be used as a post-directed spray around established woody ornamental species such as arborvitae, azalea, boxwood, crabapple, eunonymus, fir, douglas fir, jojoba, hollies, lilac, magnolia, maple, oak, privet, pine, spruce and yew. This product may also be used to trim and edge around trees, buildings, sidewalks and roads, potted plants and other objects in a nursery setting.

Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material. **This product is NOT specified for use as any over-the-top broadcast spray in ornamentals and Christmas trees.** Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established ornamental species.

Site preparation: this product may be used prior to planting any ornamental, nursery or Christmas tree species.

Greenhouse/Shadehouse: this product may be used to control weeds growing in and around greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

Annual Weeds Rate Tables (Alphabetically By Species)

Use the specified rate for this product in sufficient broadcast spray volume per acre to ensure complete and uniform coverage of target vegetations. See "Application Equipment and Techniques" section for specified spray volume and coverage recommendations.

Apply to actively growing annual weeds.

Do not tank mix with soil residual herbicides when using these rates unless otherwise specified.

For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.

For those rates less than 36 fluid ounces per acre, this product may be used up to 36 fluid ounces per acre where heavy weed densities exist. See following table for rate information for specific weeds.

Refer to this map for location of the regions listed in the annual weed tables below.



Annual Weeds Rate Table, North and South Regions

		Rate of this product [†] (Fluid Ounces Per Acre)					
		9	12	18	24	30	36
Weed Species	Region	Maximum Height/Length					
annoda, spurred		-	1"	2"	3"	5"	8"
barley		-	18"	18"+	-	-	-
barnyardgrass	South	-	3"	5"	7"	9"	12"
	North	-	-	6"	12"	-	-
bittercress		-	12"	20"	-	-	-
bluegrass, annual		-	10"	-	-	-	-
bassia, fivehook		-	-	-	6"	-	-
brome, downy		6"	-	-	-	-	-
brome, Japanese		-	6"	-	24"	-	-
browntop panicum		-	6"	8"	12"	-	24"
burcucumber		-	6"	12"	-	-	-
buttercup		-	12"	20"	-	-	-
Carolina foxtail		-	20"	-	-	-	-
Carolina geranium		-	-	-	4"	-	9"
carpetweed		-	-	6"	12"	-	-
cheat		-	6"	20"	-	-	-
chervil		-	20"	-	-	-	-
chickweed		-	12"	18"	-	-	-
cocklebur		-	12"	18"	24"	-	-
copperleaf, hophornbeam		-	1"	2"	3"	4"	6"
copperleaf, Virginia		-	1"	2"	3"	4"	6"
corn		-	12"	20"	-	-	-
corn speedwell		-	12"	-	-	-	-
crabgrass		-	12"	18"	-	-	-
cutleaf evening primrose		-	-	-	3"	3"	6"
dwarf dandelion		-	20"	-	-	-	-
eastern mannagrass		-	8"	12"	-	-	-
eclipta		-	4"	8"	12"	-	-
fall panicum	South	-	4"	6"	8"	12"	24"
	north	-	6"	12"	18"	-	-
falsedandelion		-	20"	-	-	-	-

Annual Weeds Rate Table, North and South Regions (Cont.)

		Rate of this product [†] (Fluid Ounces Per Acre)					
		9	12	18	24	30	36
Weed Species	Region	Maximum Height/Length					
falseflax, smallseed		-	12"	-	-	-	-
fiddleneck		-	-	-	6"	6"	12"
field pennycress		-	6"	12"	-	-	-
filaree		-	-	-	-	-	12"
fleabane, annual		-	6"	20"	-	-	-
fleabane, hairy (<i>conyza bonariensis</i>)		-	6"	-	-	-	-
fleabane, rough		-	3"	6"	12"	-	-
Florida pusley		-	-	-	4"	4"	6"
foxtail	South	-	8"	12"	20"	-	-
	North	18"	18"+	-	-	-	-
goatgrass, jointed		-	6"	-	-	-	-
goosegrass		-	3"	5"	8"	-	18"
grain sorghum (milo)		-	6"	12"	20"	-	-
groundsel, common		-	6"	-	-	-	-
hemp sesbania		-	-	2"	4"	6"	8"
henbit		-	-	-	6"	-	20"
horseweed/marestail (<i>conyza canadensis</i>)	South	-	-	12"	30"	-	-
	North	-	6"	12"	18"	-	-
itchgrass		-	6"	12"	18"	-	-
jimsonweed		-	-	-	6"	6"	12"
johnsongrass (seedling)	South	-	-	-	18"	-	-
	North	-	12"	18"	-	-	-
jungrice		-	3"	5"	7"	9"	12"
knotweed		-	3"	8"	12"	-	20"
kochia ¹		-	3"-6"	12"	-	-	-
lambsquarters		-	6"	8"	12"	-	20"
little barley		-	20"	-	-	-	-
London rocket		-	6"	-	-	-	-
mayweed		-	-	2"	6"	12"	18"
morningglory (<i>ipomoea spp.</i>)		-	-	2"	4"	-	6"
mustard, blue		6"	-	-	-	-	-
mustard, tansy		6"	12"	20"	-	-	-
mustard, tumble		6"	-	-	-	-	-
mustard, wild		6"	12"	18"	-	-	-
nightshade, black		6"	12"	-	-	-	-
nightshade, hairy		-	6"	12"	-	-	-
oats		-	-	6"	20"	-	-
pigweed		-	12"	18"	24"	-	-
prickly lettuce		-	6"	12"	20"	-	-
purslane		-	-	-	6"	6"	12"
ragweed, common	South	-	4"	6"	8"	-	11"
	North	-	6"	12"	18"	-	-
ragweed, giant		-	-	4"	6"	-	11"
red rice		-	-	-	4"	-	-
Russian thistle		-	6"	-	-	-	-
rye	South	-	6"	20"	60"	-	-
	North	-	18"	18"+	-	-	-

Annual Weeds Rate Table, North and South Regions (Cont.)

		Rate of this product [†] (Fluid Ounces Per Acre)					
		9	12	18	24	30	36
Weed Species	Region	Maximum Height/Length					
ryegrass		-	-	-	6"	-	7"
sandbur, field		12"	-	-	-	-	-
shattercane		-	12"	18"	-	-	-
shepherd's-purse		-	6"	12"	-	-	-
sicklepod		-	-	2"	4"	-	8"
signalgrass, broadleaf		-	3"	5"	7"	9"	12"
smartweed, ladysthumb		-	4"	6"	8"	-	12"
smartweed, pennsylvania		-	4"	6"	8"	-	12"
sowthistle, annual		-	-	-	6"	-	12"
spanishneedles		-	-	-	8"	-	18"
speedwell, purslane		-	12"	-	-	-	-
sprangletop		-	6"	12"	20"	-	-
spurge, prostrate		-	6"	12"	20"	-	-
spurge, spotted		-	6"	12"	20"	-	-
spurry, umbrella		6"	-	-	-	-	-
stinkgrass		12"	-	-	-	-	-
sunflower		-	12"	18"	-	-	-
teaweed/ prickly sida		1"	2"	3"	4"	6"	
Texas panicum		6"	8"	12"	-	24"	
velvetleaf	South	-	2"	3"	4"	5"	8"
	North	-	3"	6"	12"	-	-
Virginia pepperweed		-	18"	-	-	-	-
waterhemp		-	-	6"	12"	-	-
wheat	South	-	6"	30"	-	-	-
	North	-	18"	18"+	-	-	-
wheat (over-wintered)		-	6"	18"	-	-	-
wild oats		-	12"	-	-	-	-
wild proso millet		-	-	6"	12"	12"	18"
witchgrass		-	12"	-	-	-	-
woolly cupgrass		-	6"	12"	-	-	-
yellow rocket		-	-	12"	20"	-	-

[†] Do not treat kochia in the button stage.

[†] If weed growth is heavy or dense and/or growing in an undisturbed (non-cultivated) area and/or growing under stress, up to 3 quarts per acre may be applied.

Annual Weeds Rate Table, West Region

		Rate of this product [†] (Fluid Ounces Per Acre)				
		9	12	18	24	36
Weed Species		Maximum Height/Length				
barley		12"	-	-	-	-
barnyardgrass		6"	-	-	-	-
bluegrass, annual		6"	-	-	-	-
bluegrass, bulbous		-	6"	-	-	-
brome, downy [†]		6"	-	-	-	-
buttercup		-	12"	-	-	-
cheat		-	6"	-	-	-
chickweed		-	6"	-	-	-

Annual Weeds Rate Table, West Region (Cont.)

	Rate of this product ¹ (Fluid Ounces Per Acre)				
	9	12	18	24	36
Weed Species	Maximum Height/Length				
cocklebur	-	12"	-	-	-
corn	-	6"	-	-	-
crabgrass	-	12"	-	-	-
dwarf dandelion	-	12"	-	-	-
fall panicum	-	12"	-	-	-
false flax, smallseed	-	12"	-	-	-
field pennycress	-	6"	-	-	-
filaree	-	-	-	-	12
fleabane, hairy (<i>conyza bonariensis</i>)	-	6"	-	-	-
Florida pusley	-	-	-	12"	-
foxtail	(8 fl. oz. for up to 12")				
goatgrass, jointed	-	6"	-	-	-
groundsel, common	-	6"	-	-	-
henbit	-	6"	-	-	-
horseweed/marestail (<i>conyza canadensis</i>)	-	6"	-	-	-
johnsongrass, seedling	-	12"	-	-	-
lambsquarters	-	6"	-	-	-
London rocket	-	6"	-	-	-
morningglory (<i>ipomoea spp.</i>)	-	2"	-	-	-
mustard, blue	6"	-	-	-	-
mustard, tansy	6"	-	-	-	-
mustard, tumble	6"	-	-	-	-
mustard, wild	6"	-	-	-	-
pigweed	-	12"	-	-	-
rye	12"	-	-	-	-
ryegrass, Italian	-	6"	-	-	-
sandbur, field	12"	-	-	-	-
shattercane	12"	-	-	-	-
shepherd's-purse	-	6"	-	-	-
sowthistle, annual	-	6"	-	-	-
spurge, annual	-	6"	-	-	-
stinkgrass	12"	-	-	-	-
Texas panicum	-	12"	-	-	-
wheat	18"	-	-	-	-
wild oats	-	12"	-	-	-
witchgrass	-	12"	-	-	-

¹ For control of downy brome in no-till systems, use 16 fluid ounces per acre.

[†] If weed growth is heavy or dense and/or growing in an undisturbed (non-cultivated) area and/or growing under stress, up to 3 quarts per acre may be applied.

Perennial Weeds Rate Table (Alphabetically By Species)

Apply to actively growing perennial weeds.

NOTE: If weeds have been mowed or tilled, do not treat until plants have resumed active growth and have reached the specified stages.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Repeat treatments must be made prior to crop emergence.

Unless otherwise stated, allow 7 or more days after application before tillage.

Best results are obtained when soil moisture is adequate for active weed growth.

For difficult to control perennial weeds and woody brush and trees, where plants are growing under stressed conditions, or where infestations are dense, this product may be used at 3.75 to 7.5 quarts per acre for enhanced results. The annual maximum use rate for this product is 8 qt per acre per year.

Weed Species	Rate (pt/acre)	Water Volume (gpa)	Hand-Held (% Solution)
Alfalfa	1.5 - 3	3 - 10	1.5%
Make applications after the last hay cutting in the fall. Allow alfalfa to regrow to a height of 6 to 8 inches or more prior to treatment. Applications should be followed with deep tillage at least 7 days after treatment, but before soil freeze-up.			
Alligatorweed	6	3 - 20	1.25%
Suppression. Apply when most of the plants are in bloom. Repeat applications will be required to maintain control.			
Anise (fennel)	--	--	0.75 - 1.5%
Apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth.			
Bahiagrass	4.5 - 7.5	3 - 20	1.5%
Apply when most plants have reached the early head stage.			
Bentgrass	2.25	10 - 20	1.5%
For suppression in grass seed production areas. For ground applications only. Ensure entire crown area has resumed growth prior to a fall application. Bentgrass should have at least 3 inches of growth. Tillage prior to treatment should be avoided. Tillage 7 to 10 days after application provides best results.			
Bermudagrass	4.5 - 7.5	3 - 20	1.5%
For control, apply 7.5 pints of this product per acre. For suppression, apply 4.5 pints per acre. Treat when bermudagrass is actively growing and seedheads are present. Retreatment may be necessary to maintain control.			
Bermudagrass, water (knotgrass)	1.5 - 2.25	5 - 10	1.5%
Apply 2.25 pints of this product in 5 to 10 gallons of water per acre. Apply when water bermudagrass is 12 to 18 inches in length. Allow 7 or more days before tilling, flushing or flooding the field.			
Fall applications only: Apply 1.5 pints of this product in 5 to 10 gallons of water per acre. Fallow fields should be tilled prior to application. Apply prior to frost on water bermudagrass that is 12 to 18 inches in length.			
This product is not registered in California for use on water bermudagrass.			
Bindweed, field	0.75 - 7.5	3 - 20	1.5%
Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth.			
For control, apply 6 to 7.5 pints of this product per acre west of the Mississippi River and 4.5 to 6 pints east of the Mississippi River. Apply when the weeds are at or beyond full bloom. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.			
Also for control, apply 3 pints of this product plus 0.5 pound a.i. of dicamba in 10 to 20 gallons of water per acre. Do not apply by air.			
For suppression on irrigated agricultural land, apply 1.5 to 3 pints of this product plus 1 pound a.i. of 2,4-D in 10 to 20 gallons of water per acre with ground equipment only. Applications should be made following harvest or in fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length. The use of at least one irrigation will promote active bindweed growth.			
For suppression, apply 12 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D or 0.25 pound a.i. of dicamba in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Apply by air in fallow and reduced tillage systems only. Applications should be delayed until maximum emergence has occurred and when vines are between 6 to 18 inches in length.			
In California only, apply 1.5 to 7.5 pints of this product per acre. The actual rate needed for suppression or control will vary within this range depending on local conditions. For suppression on irrigated land where annual tillage is performed, apply 1.5 pints of this product in 3 to 10 gallons of water per acre. Apply to bindweed that has reached a length of 12 inches or greater. Allow maximum weed emergence and runner growth. Allow 3 or more days after application before tillage.			

Weed Species	Rate (pt/acre)	Water Volume (gpa)	Hand-Held (% Solution)
Bluegrass, Kentucky	1.5 - 3	3 - 40	1.5%
Apply 3 pints of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For suppression. in pasture or hay crop renovation, apply 1.5 to 2.25 pints of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.			
Blueweed, Texas	4.5 - 7.5	3 - 40	1.5%
Apply 6 to 7.5 pints of this product per acre west of the Mississippi River and 4.5 to 6 pints per acre east of the Mississippi River. Apply when plants are at or beyond full bloom. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.			
Brackenfern	4.5 - 6	3 - 40	0.75 - 1.5%
Apply to fully expanded fronds, which are at least 18 inches long.			
Bromegrass, smooth	1.5 - 3	3 - 40	1.5%
Apply 3 pints of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For suppression. in pasture or hay crop renovation, apply 1.5 to 2.25 pints of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.			
Bursage, woolly-leaf	--	3 - 20	1.5%
For control, apply 3 pints of this product plus 0.5 lb a.i. of dicamba per acre. For suppression, apply 1.5 pints of this product plus 0.5 lb a.i. of dicamba per acre. Apply when plants are producing new active growth, which has been initiated by moisture for at least 2 weeks and when plants are at or beyond flowering.			
Canarygrass, reed	3 - 4.5	3 - 40	1.5%
For best results, apply when most plants have reached the boot-to-head stage of growth.			
Cattail	4.5 - 7.5	3 - 40	1.5%
Apply when most plants have reached the early head stage.			
Clover; red, white	4.5 - 7.5	3 - 20	1.5%
Apply when most plants have reached the early bud stage.			
Cogongrass	4.5 - 7.5	10 - 40	1.5%
Apply when cogongrass is at least 18 inches tall in late summer or fall. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control.			
Dallisgrass	4.5 - 7.5	2 - 20	1.5%
Apply when most plants have reached the early head stage.			
Dandelion	4.5 - 7.5	3 - 40	1.5%
Apply when most plants have reached the early bud stage of growth. Also for control, apply 12 fluid ounces of this product plus 0.5 pound a.i. 2,4-D in 3 to 10 gallons of water per acre.			
Dock, curly	4.5 - 7.5	3 - 40	1.5%
Apply when most plants have reached the early bud stage of growth. Also for control, apply 12 fluid ounces of this product plus 0.5 pound a.i. 2,4-D in 3 to 10 gallons of water per acre.			
Dogbane, hemp	6	3 - 40	1.5%
Apply when most plants have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall. For suppression, apply 12 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Delay applications until maximum emergence of dogbane has occurred.			
Fescue (Except tall)	4.5 - 7.5	3 - 20	1.5%
Apply when most plants have reached the early head stage.			

Weed Species	Rate (pt/acre)	Water Volume (gpa)	Hand-Held (% Solution)
Fescue, tall	1.5 - 4.5	3 - 40	1.5%
Apply 4.5 pints of this product per acre when most plants have reached boot-to-early seedhead stage of development. Fall applications only: Apply 1.5 pints of this product in 3 to 10 gallons of water per acre. Apply to fescue in the fall when plants have 6 to 12 inches of new growth. A sequential application of 12 fluid ounces per acre of this product will improve long-term control and control seedlings germinating after fall treatments or the following spring.			
Guineagrass	4.5	3 - 40	0.75%
Apply when most plants have reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment.			
Horsenettle	4.5 - 7.5	3 - 20	1.5%
Apply when most plants have reached the early bud stage.			
Horseradish	6	3 - 40	1.5%
Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.			
Iceplant	--	--	1.5%
Iceplant should be at or beyond the early bud stage of growth. Thorough coverage is necessary for best control.			
Jerusalem artichoke	4.5 - 7.5	3 - 20	1.5%
Apply when most plants are in the early bud stage.			
Johnsongrass	0.75 - 4.5	3 - 40	0.75%
In annual cropping systems apply 1.5 to 3 pints of this product per acre. Apply 1.5 pints of this product in 3 to 10 gallons of water per acre. Use 3 pints of this product when applying 10 to 40 gallons of water per acre. In noncrop or areas where annual tillage (no-till) is not practiced, apply 3 to 4.5 pints of this product in 10 to 40 gallons of water per acre. For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Allow 7 or more days after application before tillage. Do not tank mix with residual herbicides when using the 1.5 pint per acre rate. For burndown of Johnsongrass, apply 12 fluid ounces of this product in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches. For this use, allow at least 3 days after treatment before tillage. Spot treatment (suppression): Apply a 0.75% solution of this product when Johnsongrass is 12 to 18 inches in height. Coverage should be uniform and complete.			
Kikuyugrass	3 - 4.5	3-40	1.5%
Spray when most kikuyugrass is at least 8 inches in height (3 or 4-leaf stage of growth). Allow 3 or more days after application before tillage.			
Knapweed	6	3-40	1.5%
Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.			
Lantana	-	-	0.75 - 1%
Apply at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth.			
Lespedeza	4.5 - 7.5	3 - 20	1.5%
Apply when most plants have reached the early bud stage.			
Milkweed, common	4.5	3 - 40	1.5%
Apply when most plants have reached the late bud to flower stage of growth.			
Muhly, wirestem	1.5 - 3	3 - 40	1.5%
Use 1.5 pints of this product in 3 to 10 gallons of water per acre. Use 3 pints of this product when applying 10 to 40 gallons of water per acre or in pasture, sod, or noncrop areas. Spray when the wirestem muhly is 8 inches or more in height. Do not till between harvest and fall applications or in the fall or spring prior to spring applications. Allow 3 or more days after application before tillage.			
Mullein, common	4.5 - 7.5	3 - 20	1.5%
Apply when most plants are in the early bud stage.			
Napiergrass	4.5 - 7.5	3 - 20	1.5%
Apply when most plants are in the early head stage.			

Weed Species	Rate (pt/acre)	Water Volume (gpa)	Hand-Held (% Solution)
Nightshade, silverleaf	3	3 - 10	1.5%
Applications should be made when at least 60 percent of the plants have berries. Fall treatments must be applied before a killing frost.			
Nutsedge; purple, yellow	0.75 - 4.5	3 - 40	0.75 - 1.5%
Apply 4.5 pints of this product per acre or apply a 0.75 to 1.5% solution for control of nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets, which have not germinated, will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control of ungerminated tubers.			
Sequential applications: 1.5 to 3 pints of this product in 3 to 10 gallons of water per acre will also provide control. Make applications when a majority of the plants are in the 3 to 5-leaf stage (less than 6 inches tall). Repeat this application, as necessary, when newly emerging plants reach the 3 to 5-leaf stage. Subsequent applications will be necessary for long-term control.			
For suppression of existing plants, apply 12 fluid ounces to 3 pints of this product in 3 to 40 gallons of water per acre. Treat when plants have 3 to 5 leaves and most are less than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or regrowth of existing plants.			
Orchardgrass	1.5 - 3	3 - 40	1.5%
Apply 3 pints of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For suppression in pasture or hay crop renovation, apply 1.5 to 2.25 pints of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.			
Orchardgrass sods going to no-till corn: Apply 1.5 to 2.25 pints of this product in 3 to 10 gallons of water per acre. Apply to orchardgrass that is a minimum of 12 inches tall for spring applications and 6 inches tall for fall applications. Allow at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results.			
Pampasgrass	--	--	1.5%
Pampasgrass should be at or beyond the boot stage of growth. Thorough coverage is necessary for best control.			
Paragrass	4.5 - 7.5	3 - 20	1.5%
Apply when most plants are in the early head stage.			
Phragmites	4.5 - 7.5	10 - 40	0.75 - 1.5%
For suppression. For best results, treat during late summer or fall months or when plants are actively growing and in full bloom. Treatment before or after this stage may lead to reduced control. Due to the dense nature of the vegetation, which may prevent good spray coverage or uneven stages of growth, repeat treatments may be necessary to maintain control. Visual control symptoms will be slow to develop.			
Poison hemlock	--	--	0.75 - 1.5%
Apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth.			
Pokeweed, common	1.5	3 - 40	1.5%
Apply to actively growing plants up to 24 inches tall.			
Quackgrass	1.5 - 4.5	3 - 40	1.5%
In annual cropping systems or in pastures and sods followed by deep tillage: Apply 1.5 pints of this product in 3 to 10 gallons of water per acre. For 10 to 40 gallons of water per acre, apply 3 pints of this product. Do not tank mix with residual herbicides when using the 1.5 pint rate. Spray when quackgrass is 6 to 8 inches in height. Do not till between harvest and fall applications or in fall or spring prior to spring application. Allow 3 or more days after application before tillage. In pastures or sods, use a moldboard plow for best results.			
In pastures, sods or noncrop areas where deep tillage does not follow application: Apply 3 to 4.5 pints of this product in 10 to 40 gallons of water per acre when the quackgrass is greater than 8 inches tall.			
Redvine	1.25 - 3	5 - 10	1.5%
For suppression, apply 18 fluid ounces of this product per acre at each of two applications 7 to 14 days apart or a single application of 3 pints per acre. Apply specified rates in 5 to 10 gallons of water per acre. Apply in late September or early October to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.			
Reed, giant	--	--	1.5%
Best results are obtained when applications are made in late summer to fall.			

Weed Species	Rate (pt/acre)	Water Volume (gpa)	Hand-Held (% Solution)
Ryegrass, perennial	1.5 - 4.5	3 - 40	0.75%
In annual cropping systems apply 1.5 to 3 pints of this product per acre. Apply 1.5 pints of this product in 3 to 10 gallons of water per acre. Use 3 pints of this product when applying 10 to 40 gallons of water per acre. In noncrop or areas where annual tillage (no-till) is not practiced, apply 3 to 4.5 pints of this product in 10 to 40 gallons of water per acre.			
For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Do not tank-mix with residual herbicides when using the 1.5 pint per acre rate.			
Smartweed, swamp	4.5 - 7.5	3 - 40	1.5%
Apply when most plants have reached the early bud stage of growth.			
Also for control, apply 12 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall.			
Sowthistle, perennial	3 - 4.5	3 - 40	1.5%
Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.			
Spurge, leafy	--	3 - 10	1.5%
For suppression, apply 12 fluid ounces of this product plus 0.5 pound a.i. 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall. If mowing has occurred prior to treatment, apply when most of the plants are 12 inches tall.			
Starthistle, yellow	3	10 - 40	1.5%
Best results are obtained when applications are made during the rosette, bolting and early flower stages.			
Sweet potato, wild	--	--	1.5%
Suppression. Apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.			
Thistle, artichoke	--	--	1.5%
Suppression. Apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.			
Thistle, Canada	3 - 4.5	3 - 40	1.5%
Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.			
For suppression, apply 1.5 pints of this product, or 12 fluid ounces of this product plus 0.5 pound a.i. 2,4-D, in 3 to 10 gallons of water per acre in the late summer or fall after harvest, mowing or tillage. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.			
Timothy	3 - 4.5	3 - 40	1.5%
For best results, apply when most plants have reached the boot-to-head stage of growth.			
Torpedograss	6 - 7.5	3 - 40	1.5%
For suppression. Apply when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to maintain control. Fall treatments must be applied before frost.			
Trumpetcreeper	3	5 - 10	1.5%
Suppression. Apply in late September or October, to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.			
Vaseygrass	4.5 - 7.5	3 - 20	1.5%
Apply when most plants are in the early head stage.			
Velvetgrass	4.5 - 7.5	3 - 20	1.5%
Apply when most plants are in the early head stage.			
Wheatgrass, western	3 - 4.5	3 - 40	1.5%
For best results, apply when most plants have reached the boot-to-head stage of growth.			

Woody Brush And Trees Rate Table (Alphabetically By Species)

Apply this product after full leaf expansion, unless otherwise directed. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when applications are made in the spring to early summer when brush species are at high moisture content and are flowering.

Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

For difficult to control perennial weeds and woody brush and trees, where plants are growing under stressed conditions, or where infestations are dense, this product may be used at 5 to 10 quarts per acre for enhanced results. The annual maximum use rate for this product is 10.6 qt per acre per year.

Weed Species	Rate (pt/acre)	Water Volume (gpa)	Hand-Held (% Solution)
Alder	4.5 - 6	3 - 40	0.75 - 1.5%
For control			
Ash	3 - 7.5	3 - 40	0.75 - 1.5%
For suppression			
Aspen, quaking	3 - 4.5	3 - 40	0.75 - 1.5%
For control			
Bearmat (Bearclover)	3 - 7.5	3 - 40	0.75 - 1.5%
For suppression			
Beech	3 - 7.5	3 - 40	0.75 - 1.5%
For suppression			
Birch	3	3 - 40	0.75%
For control			
Blackberry	4.5 - 6	10 - 40	0.75 - 1.5%
For control. Make applications after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall. Applications may also be made after leaf drop and until a killing frost or as long as stems are green. After berries have set or dropped in late fall, blackberry can be controlled by applying a 0.75% solution of this product. For control of blackberries after leaf drop and until killing frost or as long as stems are green, apply 4.5 to 6 pints of this product in 10 to 40 gallons of water per acre.			
Blackgum	3 - 7.5	3 - 40	0.75 - 1.5%
For control			
Bracken	3 - 7.5	3 - 40	0.75 - 1.5%
For control			
Broom; French, Scotch	-	-	1.5%
For control			
Buckwheat, California	-	-	0.75 - 1.5%
For suppression. Thorough coverage of foliage is necessary for best results.			
Cascara	3 - 7.5	3 - 40	0.75 - 1.5%
Suppression			

Weed Species	Rate (pt/acre)	Water Volume (gpa)	Hand-Held (% Solution)
Catsclaw	-	-	0.75 - 1.5%
Suppression			
Ceanothus	3 - 7.5	3 - 40	0.75 - 1.5%
Suppression			
Chamise	-	-	0.75%
For control. Thorough coverage of foliage is necessary for best results.			
Cherry; bitter, black, pin	3 - 4.5	3 - 40	0.75 - 1.5%
For control			
Coyote brush	-	-	1.5%
For control. Apply when at least 50 percent of the new leaves are fully developed.			
Dogwood	3 - 7.5	3 - 40	0.75 - 1.5%
Suppression			
Elderberry	3	3 - 40	0.75%
For control			
Elm	3 - 7.5	3 - 40	0.75 - 1.5%
Suppression			
Eucalyptus	-	-	1.5%
For control of eucalyptus resprouts, apply when resprouts are 6 to 12 feet tall. Ensure complete coverage. Avoid application to drought-stressed plants.			
Florida holly (Brazilian Peppertree)	3 - 7.5	3 - 40	0.75 - 1.5%
Suppression			
Gorse	3 - 7.5	3 - 40	0.75 - 1.5%
Suppression			
Hasardia	-	-	0.75 - 1.5%
Suppression. Thorough coverage of foliage is necessary for best results.			
Hawthorn	3 - 4.5	3 - 40	0.75 - 1.5%
For control			
Hazel	3	3 - 40	0.75%
For control			
Hickory	3 - 7.5	3 - 40	0.75 - 1.5%
Suppression			
Honeysuckle	3 - 6	3 - 40	0.75 - 1.5%
For control			
Hornbeam, American	3 - 7.5	3 - 40	0.75 - 1.5%
Suppression			
Kudzu	6	3 - 40	1.5%
For control. Repeat applications may be required to maintain control.			
Locust, black	3 - 6	3 - 40	0.75 - 1.5%
Suppression			

Weed Species	Rate (pt/acre)	Water Volume (gpa)	Hand-Held (% Solution)
Madrone resprouts	-	-	1.5%
Suppression. Apply to resprouts that are 3 to 6 feet tall. Best results are obtained with spring/early summer treatments.			
Manzanita	3 - 7.5	3 - 40	0.75 - 1.5%
Suppression			
Maple, red	3 - 6	3 - 40	0.75 - 1.5%
For control, apply a 0.75 to 1.5 percent solution when at least 50 percent of the new leaves are fully developed. For suppression, apply 3 to 6 pints of this product per acre.			
Maple, sugar	-	-	0.75 - 1.5%
For control. Apply when at least 50 percent of the new leaves are fully developed.			
Monkey flower	-	-	0.75 - 1.5%
Suppression. Thorough coverage of foliage is necessary for best results.			
Oak; black, white	3 - 6	3 - 40	0.75 - 1.5%
Suppression			
Oak, post	4.5 - 6	3 - 40	0.75 - 1.5%
For control			
Oak; northern, pin	-	-	0.75 - 1.5%
For control. Apply when at least 50 percent of the new leaves are fully developed.			
Oak; southern red	3 - 4.5	3 - 40	0.75 - 1.5%
For control			
Persimmon	3 - 7.5	3 - 40	0.75 - 1.5%
Suppression			
Pine	3 - 7.5	3 - 40	0.75 - 1.5%
For control			
Poison ivy/ Poison oak	6 - 7.5	3 - 40	1.5%
For control. Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color.			
Poplar, yellow	3 - 7.5	3 - 40	0.75 - 1.5%
Suppression			
Redbud, eastern	3 - 7.5	3 - 40	0.75 - 1.5%
For control			
Rose, multiflora	3	3 - 40	0.75%
For control. Treatments should be made prior to leaf deterioration by leaf-eating insects.			
Russian olive	3 - 7.5	3 - 40	0.75 - 1.5%
Suppression			
Sage, black	-	-	0.75%
For control. Thorough coverage of foliage is necessary for best results.			
Sage, white	3 - 7.5	3 - 40	0.75 - 1.5%
Suppression			
Sage brush, California	-	-	0.75%
For control. Thorough coverage of foliage is necessary for best results.			
Salmonberry	3	3 - 40	0.75%
For control			

Weed Species	Rate (pt/acre)	Water Volume (gpa)	Hand-Held (% Solution)
Salt-cedar	3 - 7.5	3 - 40	0.75 - 1.5%
For control			
Sassafras	3 - 7.5	3 - 40	0.75 - 1.5%
Suppression			
Sourwood	3 - 7.5	3 - 40	0.75 - 1.5%
Suppression			
Sumac; poison, smooth, winged	3 - 6	3 - 40	0.75 - 1.5%
Suppression			
Sweetgum	3 - 4.5	3 - 40	0.75 - 1.5%
For control			
Swordfern	3 - 7.5	3 - 40	0.75 - 1.5%
Suppression			
Tallowtree, Chinese	-	-	0.75%
For control. Thorough coverage of foliage is necessary for best results.			
Tan oak resprouts	-	-	1.5%
For suppression. Apply to resprouts that are less than 3 to 6 feet tall. Best results are obtained with fall applications.			
Thimbleberry	3	3 - 40	0.75%
For control			
Tobacco, tree	-	-	0.75 - 1.5%
Suppression			
Trumpet creeper	3 - 4.5	3 - 40	0.75 - 1.5%
For control			
Vine maple	3 - 7.5	3 - 40	0.75 - 1.5%
Suppression			
Virginia creeper	3 - 7.5	3 - 40	0.75 - 1.5%
For control			
Waxmyrtle, southern	3 - 7.5	3 - 40	0.75 - 1.5%
Suppression			
Willow	3	3 - 40	0.75%
For control			

Terms and Conditions of Use

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

Warranty Disclaimer

Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. To the extent permitted by law, 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 all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. To the extent permitted by law, all such risks shall be assumed by buyer.

Limitation of Remedies

To the extent permitted by law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at 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 product used.

To the extent permitted by law, Dow AgroSciences 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. To the extent permitted by law, 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 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.

®Trademark of Dow AgroSciences LLC

Produced for
Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268

Label Code: D02-351-002
Replaces Label: D02-351-001
LOES Number: 010-02164

EPA-accepted 05/12/08

Revisions:

1. Updated Storage and Disposal
2. Removed Spanish signal word
3. Revised primary skin irritation from Category IV to Category III.
4. Revised precautionary statements and First Aid to category III.
5. Removed statement to prohibit addition of buffering agents when this product is the only herbicide being applied

2H

MATERIAL SAFETY DATA SHEET



Emergency Phone: 800-992-5994
Dow AgroSciences LLC
Indianapolis, IN 46268

Effective Date: 03-May-10
Product Code: 111491

ACCORD* XRT II HERBICIDE

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Accord* XRT II Herbicide

COMPANY IDENTIFICATION:

Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268-1189

2. HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW

Yellow liquid. May cause eye and skin irritation.
EMERGENCY PHONE NUMBER: 800-992-5994

3. COMPOSITION/INFORMATION ON INGREDIENTS:

COMPONENT	CAS NUMBER	W/W%
Glyphosate DMA Salt	34494-04-7	50.0
Balance		50.0

4. FIRST AID:

EYE: Flush eyes thoroughly with water for several minutes. Remove contact lenses after initial 1-2 minutes and continue flushing for several additional 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.

5. FIRE FIGHTING MEASURES:

FLASH POINT: None (water based formulation)
METHOD USED: Not applicable

FLAMMABLE LIMITS

LFL: Not determined
UFL: Not determined

EXTINGUISHING MEDIA: To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam.

FIRE FIGHTING PROCEDURES: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

SPECIAL PROTECTIVE EQUIPMENT FOR

FIREFIGHTERS: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves.) Avoid contact with this material during fire fighting operations. If contact is likely change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

UNUSUAL FIRE AND EXPLOSION HAZARDS: This material will not burn until the water has evaporated. Residue can burn. If exposed to fire from another source and water is evaporated, exposure to high temperatures may cause toxic fumes. Dense smoke is produced when product burns.

MATERIAL SAFETY DATA SHEET



Emergency Phone: 800-992-5994
Dow AgroSciences LLC
Indianapolis, IN 46268

Effective Date: 03-May-10
Product Code: 111491

ACCORD* XRT II HERBICIDE

HAZARDOUS COMBUSTION PRODUCTS: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and irritating. Combustion products may include and are not limited to: Phosphorus oxides, Nitrogen oxides, Carbon monoxide, and Carbon dioxide.

6. ACCIDENTAL RELEASE MEASURES:

ACTION TO TAKE FOR SPILLS: Absorb small spills with materials such as sand, sawdust, Zorball, or dirt. Wash exposed body areas thoroughly after handling. Report large spills to Dow AgroSciences on 800-992-5994.

7. 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 after handling and before eating, chewing gum, using tobacco, using the toilet or smoking. Keep away from food, feedstuffs, and water supplies.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

These precautions are suggested for conditions where a potential for exposure exists. Emergency conditions may require additional precautions.

EXPOSURE GUIDELINES:

None established

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation.

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

EYE/FACE PROTECTION: Use chemical goggles.

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. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly. Items which cannot be decontaminated, such as shoes, belts and watchbands, should be removed and disposed of properly.

HAND PROTECTION: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Chlorinated polyethylene, polyethylene, ethyl vinyl alcohol laminate (EVAL). Examples of acceptable glove barrier materials include: butyl rubber, natural rubber (latex), neoprene, Nitrile/butadiene rubber (Nitrile or NBR), polyvinyl chloride (PVC or vinyl), Viton.

RESPIRATORY PROTECTION: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: organic vapor cartridge with a particulate pre-filter.

INGESTION: Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

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

9. PHYSICAL AND CHEMICAL PROPERTIES:

APPEARANCE: Yellow liquid
DENSITY: 1.211 g/mL
pH: 4.4 – 4.6

MATERIAL SAFETY DATA SHEET



Emergency Phone: 800-992-5994
Dow AgroSciences LLC
Indianapolis, IN 46268

Effective Date: 03-May-10
Product Code: 111491

ACCORD* XRT II HERBICIDE

10. STABILITY AND REACTIVITY:

STABILITY: (CONDITIONS TO AVOID) Thermally stable at typical use temperatures. Active ingredient decomposes at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID)
Avoid contact with: acids, halogens, oxidizers, peroxides.

HAZARDOUS DECOMPOSITION PRODUCTS:
Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon monoxide, carbon dioxide, amines, hydrocarbons, nitrogen oxides, phosphorus oxides. Toxic gasses are released during decomposition.

HAZARDOUS POLYMERIZATION: Not known to occur.

11. TOXICOLOGICAL INFORMATION:

EYE: May cause eye irritation. May cause slight corneal injury.

SKIN: Brief contact may cause slight skin irritation with local redness. Prolonged skin contact is unlikely to result in absorption of harmful amounts. Has caused allergic skin reactions when tested in mice. The LD₅₀ for skin absorption is >5,000 mg/kg (female rats).

INGESTION: Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. The oral LD₅₀ is >5,000 mg/kg (male and female rats).

INHALATION: No adverse effects are anticipated from single exposure to mist. The aerosol LC₅₀ is >5.63 (male and female rats) for 4 hours.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: Based largely or completely on information for glyphosate and available data, repeated exposures are not anticipated to cause significant adverse effects.

CANCER INFORMATION: Glyphosate did not cause cancer in laboratory animals.

TERATOLOGY (BIRTH DEFECTS): Glyphosate has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals.

REPRODUCTIVE EFFECTS: Glyphosate, in laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

MUTAGENICITY: Animal genetic toxicity studies were negative. This material was not mutagenic in an Ames bacterial assay. The following information is based on limited data and/or screening studies. Animal genetic toxicity studies were negative.

12. ECOLOGICAL INFORMATION:

ENVIRONMENTAL FATE:

MOVEMENT & PARTITIONING: No relevant information found.

DEGRADATION & PERSISTENCE: No relevant information found.

ECOTOXICOLOGY: Material is highly toxic to aquatic organisms on an acute basis (LC₅₀ or EC₅₀ is between 0.1 and 1 mg/L in the most sensitive species tested). Material is practically non-toxic to birds on an acute basis (LC₅₀ is >2,000 mg/kg).

13. DISPOSAL CONSIDERATIONS:

DISPOSAL METHOD: 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.

MATERIAL SAFETY DATA SHEET



Emergency Phone: 800-992-5994
Dow AgroSciences LLC
Indianapolis, IN 46268

Effective Date: 03-May-10
Product Code: 111491

ACCORD* XRT II HERBICIDE

14. TRANSPORT INFORMATION:

DOT Non-Bulk
NOT REGULATED

DOT Bulk
NOT REGULATED

IMDG

Proper Shipping Name: ENVIRONMENTALLY
HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Technical Name: Glyphosate

Hazard Class: 9 ID Number: UN3082

Packing Group: PG III

EMS Number: F-A,S-F

Marine pollutant.: Yes

ICAO/IATA

Proper Shipping Name: ENVIRONMENTALLY
HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Technical Name: Glyphosate

Hazard Class: 9 ID Number: UN 3082

Packing Group: PG III

Cargo Packing Instruction: 914

Passenger Packing Instruction: 914

Additional Information

Reportable quantity: 8,368 lb – DIMETHYLAMINE

MARINE POLLUTANT

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:

An immediate 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

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: 14
Reference: TIME*20834
Replaces MSDS Dated: 23-Apr-09
Document Code: D03-351-005
Replaces Document Code: D03-351-004

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

*Trademark of Dow AgroSciences LLC

5H

This information is for promotional purposes only. Space considerations may require information to be omitted. Always refer to the actual package for complete label verbiage. This product may not yet be available or approved for sale or use in your area.



Applications may only be made for the control of undesirable emergent and floating aquatic vegetation in estuarine marine surface water. For the control of undesirable vegetation in fencerows, non-irrigation ditch banks, and wildlife openings, and industrial noncropland areas including railroad, utility, pipeline and utility plant sites, petroleum tank farms, pumping installations, storage areas, non-irrigation ditchbanks, roads, transmission lines, and industrial bareground areas.

ACTIVE INGREDIENT: By Weight

Isopropylamine salt of Imazapyr: (2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridinecarboxylic acid) * 28.7%

OTHER INGREDIENTS: 71.3%
TOTAL 100.0%

*Equivalent to 22.6% 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridinecarboxylic acid or 2 pounds acid per gallon.

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 not understand the label, find someone to explain it to you in detail).

SEE INSIDE BOOKLET FOR ADDITIONAL PRECAUTIONARY STATEMENTS

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300
 For Medical Emergencies Only, Call (877) 325-1840

EPA REG. NO. 228-534

EPA EST. NO.

**MANUFACTURED FOR
NUFARM AMERICAS INC.
BURR RIDGE, ILLINOIS 60527-0866**

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION - PRECAUCION

No human or domestic animal hazard statements are required. Follow instructions for Personal Protective Equipment and User Safety Recommendations.

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-sleeve 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, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

FIRST AID

IF 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.

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 INHALED

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

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 1-877-325-1840 for emergency medical treatment information.

PHYSICAL AND CHEMICAL HAZARDS

Spray solutions of this product should be mixed, stored and applied only in stainless steel, fiberglass, plastic and plastic-lined steel containers.

Do not mix, store or apply this product or spray solutions of this product in unlined steel (except stainless steel) containers or spray tanks.

ENVIRONMENTAL HAZARDS

Do not apply to water except as specified in this label. Treatment of aquatic weeds may result in oxygen depletion or loss due to decomposition of dead plants. This oxygen loss may cause the suffocation of some aquatic organisms. This herbicide is phytotoxic at extremely low concentrations. Non-target plants may be adversely affected from drift. For terrestrial uses, 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.

This pesticide is toxic to vascular plants and should be used strictly in accordance with the drift precautions on the label.

DIRECTIONS FOR USE

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

This product should be used only in accordance with recommendations on the label.

IMPORTANT

Do not use on food crops or christmas trees. Do not apply this product within one-half mile upstream of an active potable water intake in flowing water (i.e., river, stream, etc.) or within one-half mile of an active potable water intake in a standing body of water, such as a lake, pond or reservoir. Do not apply to water used for irrigation except as described in APPLICATION TO WATERS USED FOR IRRIGATION section of this label. Keep from contact with fertilizers, insecticides, fungicides and seeds. Do not 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 treated soil may be washed or moved into contact with their roots. Domestic use of this product is prohibited. Do not side trim desirable vegetation with this product unless severe injury and plant death can be tolerated. Prevent drift of spray to desirable plants.

Clean application equipment after using this product by thoroughly flushing with water.

AGRICULTURAL USE REQUIREMENTS

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

DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 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, soil, or water, is:

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

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 (WPS) 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.

Noncrop weed control is not within the scope of the Worker Protection Standard. See the GENERAL INFORMATION section of this label for a description of noncrop sites.

DO NOT enter treated areas without protective clothing until sprays have dried.

GENERAL USE PRECAUTIONS AND RESTRICTIONS

Applications may only be made for the control of undesirable emergent and floating aquatic vegetation in and around standing and flowing water, including estuarine and marine sites. Applications may be made to control undesirable wetland, riparian and terrestrial vegetation growing in or around surface water when applications may result in inadvertent applications to surface water.

Aerial application is restricted to helicopter only.

Application of this product can only be made by federal or state agencies, such as Water Management District personnel, municipal officials and the U.S. Army Corps of Engineers, or those applicators who are licensed or certified as aquatic pest control applicators and are authorized by the state or local government.

Treatment to other than non-native invasive species is limited to only those plants that have been determined to be a nuisance by a federal or state government entity.

Applications to private waters: Applications may be made to private waters that are still, such as ponds, lakes and drainage ditches where there is minimal or no outflow to public waters.

Application to public waters: Applications may be made to public waters such as ponds, lakes, reservoirs, marshes, bayous, drainage ditches, canals, streams, rivers, and other slow-moving or quiescent bodies of water for control of aquatic weeds or for control of riparian and wetland weed species.

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.

Recreational Use of Water in Treatment Area: There are no restrictions on the use of water in the treatment area for recreational purposes, including swimming and fishing.

Livestock Use of Water in/from Treatment Area: There are no restrictions on livestock consumption of water from the treatment area.

Precautions for Potable Water Intakes: Do not apply this product directly to water within one-half mile upstream of an active potable water intake in flowing water (i.e., river, stream, etc.) or within one-half 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 one-half mile of active potable water intakes, the water intake must be turned off during application and for a minimum of 48 hours after the application. These aquatic applications may be made only in the cases where there are alternative water sources or holding ponds, which would permit the turning off of an active potable water intake for a minimum period of 48 hours after the applications. Note: Existing potable water intakes which are no longer in use, such as those replaced by connections to wells or a municipal water system, are not considered to be active potable water intakes. This restriction does not apply to intermittent, inadvertent over spray of water in terrestrial use sites.

APPLICATION TO WATERS USED FOR IRRIGATION

Water treated with this product may not be used for irrigation purposes for 120 days after application or until product residue levels are determined by laboratory analysis, or other appropriate means of analysis, to be 1.0 ppb or less.

Seasonal Irrigation Waters: This product 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 product application and the first use of treated water for irrigation purposes or until product residue levels are determined by laboratory analysis, or other appropriate means of analysis, to be 1.0 ppb or less.

Irrigation Canals/Ditches: Do not apply this product to irrigation canals/ditches unless the 120-day restriction on irrigation water usage can be observed or product residue levels are determined by laboratory analysis, or other appropriate means of analysis, to be 1.0 ppb or less. Do not apply this product to dry irrigation canals/ditches.

Quiescent or Slow Moving Waters: In lakes and reservoirs Do not apply this product within one (1) mile of an active irrigation water intake during the irrigation season. Applications less than one (1) mile from an inactive irrigation water intake may be made during the off-season, provided that the irrigation intake will remain inactive for a minimum 120 days after application or until product residue levels are determined by laboratory analysis, or other appropriate means of analysis, to be 1.0 ppb or less.

Moving water: Do not apply within one-half mile downstream of an active irrigation water intake. When making applications upstream from an active irrigation water intake, the intake must be turned off for a period of time sufficient to allow the upstream portion of treated water to completely flow past the irrigation intake before use can resume. Shut off

time will be determined by the speed of water flow and the distance and length of water treated upstream from the intake. Consult local, state and/or federal authorities before making any applications upstream from an active irrigation water intake.

GENERAL INFORMATION

Use Sites: This product is an aqueous solution to be mixed with water and a surfactant and applied as a spray solution to control floating and emergent undesirable vegetation (see AQUATIC WEEDS CONTROLLED section and the ADDITIONAL WEEDS CONTROLLED section) in or near bodies of water which may be flowing, non-flowing, or transient. This product may be applied to specified aquatic sites that include lakes, rivers, streams, ponds, seeps, drainage ditches, canals, reservoirs, swamps, bogs, marshes, estuaries, bays, brackish water, transitional areas between terrestrial and aquatic sites and seasonal wet areas. See AQUATIC USE section of this label for precautions, restrictions, and instructions on aquatic uses.

Read and observe the following directions if aquatic sites are present in terrestrial noncrop areas and are part of the intended treatment area:

Herbicidal Activity: This product will control most annual and perennial grasses and broadleaf weeds in addition to many brush and vine species with some residual control of undesirable species that germinate above the waterline. This product is readily absorbed through emergent leaves and stems and is translocated 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 or submerged storage organs, which prevents regrowth. Chlorosis and tissue necrosis may not be apparent in some plant species until two or more weeks after application. Complete kill of plants may not occur for several weeks. Applications of this product are rainfast one hour after treatment.

This product does not control plants which are completely submerged or have a majority of their foliage under water.

Application Methods: This product must be applied to the emergent foliage of the target vegetation and has little to no activity on submerged aquatic vegetation. Product concentrations resulting from direct application to water are not expected to be of sufficient concentration or duration to provide control of target vegetation. Application should be made in such a way as to maximize spray interception by the target vegetation while minimizing the amount of over spray that enters the water. For maximum activity, weeds should be growing vigorously at the time of application and the spray solution should include a surfactant (See ADJUVANTS section for specific recommendations). This product may be selectively applied by using low-volume directed application techniques or may be broadcast-applied by using ground equipment, watercraft or by helicopter. In addition, this product may also be used for cut stump, cut stem and frill and girdle treatments within aquatic sites (see AERIAL APPLICATIONS and GROUND APPLICATIONS sections for additional details).

This product should be applied with surface or helicopter application equipment in a minimum of 5 gallons of water per acre. When applying by helicopter, follow directions under the AERIAL APPLICATIONS section of this label, otherwise refer to section on GROUND APPLICATIONS when using surface equipment.

Applications made to moving bodies of water should be made while traveling upstream to prevent concentration of this herbicide in water. Do not apply to bodies of water or portions of bodies of water where emergent and/or floating weeds do not exist.

When application is to be made to target vegetation that covers a large percentage of the surface area of impounded water, treating the area in strips may avoid oxygen depletion due to decaying vegetation. Oxygen depletion may result in the suffocation of some sensitive aquatic organisms. Do not treat more than one half of the surface area of the water in a single operation and wait at least 10 to 14 days between treatments. Begin treatment along the shore and proceed outward in bands to allow aquatic organisms to move into untreated areas.

Avoid wash-off of sprayed foliage by spray boat or recreational boat backwash for one hour after application.

Apply this product at 2 to 6 pints per acre depending on species present and weed density. Do not exceed the maximum label rate of 6 pints per acre (1.5 lb ai/A) per year. Use the higher labeled rates for heavy weed pressure. Consult the AQUATIC WEEDS CONTROLLED section and the ADDITIONAL WEEDS CONTROLLED section of this label for specific rates.

This product may be applied as a draw down treatment in areas described above. Apply this product to weeds after water has been drained and allow 14 days before reintroduction of water.

Use Sites: This product is an aqueous solution to be mixed with water and a surfactant and applied as a spray solution to grass pasture and rangeland and noncropland areas such as railroad, utility, pipeline and highway rights-of-way, utility plant sites, petroleum tank farms, pumping installations, fence rows, storage areas, non-irrigation ditchbanks, including grazed or hayed areas within these sites. This product is recommended for the establishment and maintenance of wildlife openings. This product may also be used for the release of unimproved Bermudagrass (see specific directions) and for use under certain paved surfaces (see specific directions).

Application Methods: This product will control most annual and perennial grasses and broadleaf weeds in addition to many brush and vine species and this product will provide residual control of labeled weeds which germinate in the treated areas. This product may be applied either preemergence or post-emergence to the weeds; however, post-emergence application is the method of choice in most situations, particularly for perennial species. For maximum activity, weeds should be growing vigorously at the time of post-emergence application and the spray solution should include a surfactant (See Adjuvant Section for specific recommendations). These solutions may be applied selectively by using low-volume techniques or may be applied broadcast by using ground equipment or aerial equipment. In addition, this product may also be used for stump and cut stem treatments (see specific directions).

Herbicidal Activity: This product is readily absorbed through leaves, stems, and roots and is translocated 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 plants may not occur for several weeks. Applications of this product are rainfast one hour after treatment.

PRECAUTIONS FOR AVOIDING INJURY TO NON-TARGET PLANTS

Untreated desirable plants can be affected by root uptake of this product from treated soil. Injury or loss of desirable plants may result if this product is applied on or near desirable plants, on areas where their roots extend, or in locations where the treated soil may be washed or moved into contact with their roots. When making applications along shorelines where desirable plants may be present, caution should be exercised to avoid spray contact with their foliage or spray application to the soil in which they are rooted. Shoreline plants that have roots that extend into the water in an area where this product has been applied generally will not be adversely affected by uptake of the herbicide from the water.

If treated vegetation is to be removed from the application site, Do not use the vegetative matter as mulch or compost on or around desirable species.

Untreated trees can occasionally be affected by root uptake of this product through movement into the top soil. Injury or loss of desirable trees or other plants may result if this product 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 contact with their roots.

MANAGING OFF-TARGET MOVEMENT

The following information is provided as general guidance for managing off-target movement. Specific use recommendations for this product may differ depending on the application technique used and the vegetation management objective.

Spray Drift: Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determines the potential for spray drift. The applicator and the entity authorizing spraying are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications: 1) The distance of the outer most operating nozzles 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 must be observed.

Spray drift from applying this product may result in damage to sensitive plants adjacent to the treatment area. Only apply this product when the potential for drift to these and other adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, or non-target crops) is minimal. Do not apply when the following conditions exist that increase the likelihood of spray drift from intended targets: high or gusty winds, high temperatures, low humidity, temperature inversions.

To minimize spray drift, the applicator should be familiar with and take into account the following drift reduction advisory information. Additional information may be available from state enforcement agencies or the Cooperative Extension on the application of this product.

The best drift management strategy and most effective way to reduce drift potential are to apply large droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see WIND, TEMPERATURE AND HUMIDITY, and TEMPERATURE INVERSIONS).

CONTROLLING DROPLET SIZE:

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles** - Use the minimum number of nozzles that 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 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 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. Do not use nozzles producing a mist droplet spray.

Application Height: Making applications at the lowest possible height (helicopter, 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 treatment area, 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. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of 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.

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

AERIAL APPLICATION METHODS AND EQUIPMENT HELICOPTERS ONLY

Water Volume: 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.

Managing spray drift from aerial applications: Applicators must follow these requirements to avoid off-target drift movement: 1) boom length - the distance of the outermost nozzles on the boom must not exceed 3/4 the length of the rotor, 2) nozzle orientation - nozzles must always point backward parallel with the air stream and never be pointed downward more than 45 degrees, and 3) application height - without compromising helicopter safety, applications should be 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)

Water Volume: 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

Post-emergence applications of this product require the addition of a spray adjuvant for optimum herbicide performance. Only spray adjuvants that are approved or appropriate for aquatic use should be utilized. The addition of a Chemical Producers and Distributors Associations (CPDA) certified adjuvant can increase control. A CPDA certified drift control agent may also be used.

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 a 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 product 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, limiting herbicide uptake.

Invert emulsions: This product can be applied as an invert emulsion. The spray solution results in an invert (water-in-oil) spray emulsion designed to minimize spray drift and spray run-off, resulting in more herbicide on the target foliage. The spray emulsion may be formed in a single tank (batch mixing) or injected (in-line mixing). Consult the invert chemical label for proper mixing directions.

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.

Other: An antifoaming agent, spray pattern indicator or drift reducing agent may be applied at the product labeled rate if necessary or desired.

TANK MIXES

This product may be tank-mixed with other aquatic use herbicides for the control of emergent and floating aquatic vegetation, provided that the label for the tank mix product does not prohibit such mixing. Consult manufacturer's labels for specific rates and weeds controlled. Always follow the more restrictive label when making an application involving tank-mixes.

AERIAL APPLICATIONS

All precautions should be taken to minimize or eliminate spray drift. Helicopters can be used to apply this product; however, Do not make applications by helicopter unless appropriate buffer zones can be maintained to prevent spray drift out of the target area, or when spray drift as a result of helicopter 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 this product unless death of treated tree can be tolerated.

Brush Control:

All precautions should be taken to minimize or eliminate spray drift. Fixed wing aircraft and helicopters can be used to apply this product, 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 this product unless death of treated tree can be tolerated.

Uniformly apply the recommended amount of this product 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 prevent 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 label 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 this product 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 this product unless severe injury or death of the treated tree can be tolerated. This product is readily translocated and can result in death of the entire tree.

FOLIAR APPLICATIONS

Low Volume Foliar:

Use equipment calibrated to deliver 5 to 20 gallons of spray solution per acre. To prepare the spray solution, thoroughly mix in water 0.5 to 5% of this product plus surfactant (see the ADJUVANTS 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 species (see AQUATIC WEEDS CONTROLLED section and the ADDITIONAL 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 this product per acre. Excessive wetting of foliage is not recommended. See the MIXING GUIDE below for some suggested volumes of this product and water.

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 rollover 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.

Moisten, but do not drench target vegetation causing spray solution to run off.

Low Volume Foliar with Backpacks:

For low-growing species, spray down on the crown, covering crown and penetrating approximately 70% of the plant.

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

Low Volume Foliar 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.

SUGGESTED TANK-MIXES AND APPLICATION RATES*

Target Vegetation	Rate of this product	Tank Mix
Mixed hardwoods without elm, locust, or pine	1.0 - 1.5% by volume	Surfactant
Mixed hardwoods containing 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 oz./Acre or 2.3 grams/gal. plus surfactant

MIXING CHART

% Solution	Amount of this product per Gallon of Mix	Amount of this product per 4 Gallon Backpack
0.5%	0.6 oz.	2.6 oz.
1.0%	1.3 oz.	5.1 oz.
2.0%	2.6 oz.	10.2 oz.
3.0%	3.8 oz.	15.4 oz.
5.0%	6.4 oz.	25.6 oz.

MEASURING CHART

128 ounces	=	1 gallon
16 ounces	=	1 pint
8 pints	=	1 gallon
4 quarts	=	1 gallon
2 pints	=	1 quart

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 feet 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 FOLIAR APPLICATIONS

AMOUNT OF SPRAY SOLUTION BEING PREPARED	DESIRED CONCENTRATION (fluid volume)				
	0.5%	0.75%	1%	1.5%	5%
	(amount of this product to use)				
1 gallon	0.6 oz	0.9 oz	1.3 oz	1.9 oz	6.5 oz
3 gallons	1.9 oz	2.8 oz	3.8 oz	5.8 oz	1.2 pints
4 gallons	2.5 oz	3.8 oz	5.1 oz	7.7 oz	1.6 pints
5 gallons	3.2 oz	4.8 oz	6.5 oz	9.6 oz	2 pints
50 gallons	2 pints	3 pints	4 pints	6 pints	10 quarts
100 gallons	4 pints	6 pints	8 pints	6 quarts	5 gallons
2 tablespoons = 1 fluid ounce					

High Volume Foliar:

For optimum performance when spraying medium to high-density vegetation and brush, use equipment calibrated to deliver up to 100 gallons of spray solution per acre (GPA). Spray solutions exceeding 100 GPA may result in excessive spray run-off, causing increased ground cover injury, and injury to desirable species. To prepare the spray solution, thoroughly mix this product in water and add a surfactant (see ADJUVANT section for specific recommendations and rates of surfactants). A foam-reducing agent may be added at the recommended label rate, if needed. For control of difficult species (see AQUATIC WEEDS CONTROLLED section and the ADDITIONAL 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 this product per acre. Uniformly cover the foliage of the vegetation to be controlled but do not apply to run-off. Excessive wetting of foliage is not recommended.

Side Trimming:

Do not side trim with this product unless severe injury or death of the treated tree can be tolerated. This product is readily translocated and can result in death of the entire tree.

BRUSH CONTROL

This product may be tank-mixed with other herbicides to provide control of species tolerant to this product provided that the tank mix herbicide label does not prohibit such mixing.

Consult manufacturer's labels for specific rates and weeds controlled. Always follow the more restrictive label when making an application involving tank-mixes. Tank-mixing with 2,4-D or products which contain 2,4-D have resulted in reduced performance of this product.

INVERT EMULSIONS:

This product can be applied as an invert emulsion. The spray solution results in an invert (water-in-oil) spray emulsion designed to minimize spray drift and spray run-off, resulting in more herbicide on the target foliage. The spray emulsion may be formed in a single tank (batch mixing) or injected (in-line mixing). Consult the invert chemical label for proper mixing directions.

CUT STUBBLE:

This product can be applied within 2 weeks after mechanical mowing or cutting of brush. To suppress or control resprouting, uniformly apply a spray solution of this product at the rate of 1 to 2 pints per acre to the cut area. This product may be tank-mixed with picloram to aid in control or suppression of brush. The addition of 5% (v/v) or more of a penetrating agent can aid in uptake through the bark or exposed roots.

Cut stubble applications are made to the soil and cut brush stumps. This type of application may increase ground cover injury. However, vegetation will recover. Making applications of this product directly to the soil can increase potential root uptake causing injury or death of desirable trees.

Efficacy can be increased and root uptake by desirable vegetation can be decreased if the brush is allowed to regrow and the foliage is treated.

CUT SURFACE TREATMENTS

This product may be used to control undesirable woody vegetation by applying the product solution to the cambium area of freshly cut stump surfaces or to fresh cuts on the stem of the target woody vegetation. Applications can be made at any time of the year except during periods of heavy sap flow in the spring. Do not over apply solution causing run-off from the cut surface.

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.

Mixing: This product may be mixed as either a concentrated or dilute solution for stump and cut stem treatments. The dilute solution may be used for applications to the surface of the stump or to cuts on the stem of the target woody vegetation. Concentrated solutions may be used for applications to cuts on the stem. Use of the concentrated solution permits application to fewer cuts on the stem, especially for large diameter trees. Follow the application instructions to determine proper application techniques for each type of solution.

To prepare a dilute solution, mix 8 to 12 fluid ounces of this product 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 this product with no more than 1 quart of water.

CUT SURFACE APPLICATIONS WITH DILUTE AND CONCENTRATE SOLUTIONS

This product may be mixed as either a concentrated or dilute solution. The dilute solution may be used for applications to the cut surface of the stump or to cuts on the stem of the target woody vegetation. Concentrated solutions may be used for applications to cuts on the stem. Use of the concentrated solution permits application to fewer cuts on the stem, especially for large diameter trees. Follow the application instructions to determine proper application techniques for each type of solution.

- To prepare a dilute solution, mix 8 to 12 fluid ounces of this product with one gallon of water. The use of a surfactant or penetrating agent may improve uptake through partially callused cambiums.
- To prepare a concentrated solution, mix 2 quarts of this product with no more than 1 quart of water.

Cut stump treatments:

- Dilute Solution - 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).

Cut stem (injection, hack & squirt) treatments:

- Dilute Solutions- Using standard injection equipment, apply 1 milliliter of solution 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.
- Concentrate Solutions- 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.

Frill or girdle treatments:

- Using a hatchet, machete, or chain saw, make cuts through the bark and completely around the tree to expose the cambium. The cut should angle downward extending into the cambium enough to expose at least two growth rings. Using a spray applicator or brush, apply a 25% to 100% solution of this product into each cut until thoroughly wet. Avoid applying so much herbicide that runoff to the ground or water occurs.

AQUATIC SPECIES CONTROLLED

This product will control the following target species as specified in the RECOMMENDATION section of the table. Rate recommendations are expressed in terms of product volume for broadcast applications and as a % solution for directed applications including spot treatments. For % solution applications, DO NOT apply more than the equivalent of 3 quarts of this product per acre.

COMMON NAME	SCIENTIFIC NAME	RECOMMENDATION
Floating Species		
*Duckweed	<i>Lemna minor</i>	2-3 pints/acre (1% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
*Duckweed, Giant	<i>Spirodela polyrriza</i>	2-3 pints/acre (1% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
*Frogbit	<i>Limnium spongia</i>	1-2 pints/acre (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
*Spatterdock	<i>Nuphar luteum</i>	Apply a tank-mix of 2-4 pints/acre of this product + 4-6 pints/acre glyphosate (0.5% this product + 1.5% glyphosate) in 100 GPA water for best control. Ensure 100% coverage of actively growing, emergent foliage.
*Water Hyacinth	<i>Eichhornia crassipes</i>	1-2 pints/acre (0.5% solution) applied in 100 GPA water to actively growing foliage.
*Water Lettuce	<i>Pistia stratiotes</i>	1-2 pints/acre (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
Emergent Species		
*Alligatorweed	<i>Alternanthera philoxeroides</i>	1-4 pints/acre (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage. Tank-mix with glyphosate is NOT recommended, and may reduce alligatorweed control, requiring higher product rates.
*Arrowhead, Duck-potato	<i>Sagittaria spp.</i>	1-2 pints/acre (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
*Bacopa, lemon	<i>Bacopa spp.</i>	1-2 pints/acre (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
*Parrot feather	<i>Myriophyllum aquaticum</i>	Must be foliage above water for sufficient product uptake. Apply 2 - 4 pints to actively growing emergent foliage.
*Pennywort	<i>Hydrocotyle spp.</i>	1-2 pints/acre (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
*Pickersweed	<i>Pontederia cordata</i>	2-3 pints/acre (1% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
*Taro, wild, Dasheen; Elephant's Ear; Coco Yam	<i>Colocasia esculentum</i>	4-6 pints/acre (1.5% solution) applied in 100 GPA with a high quality "sticker" adjuvant. Ensure good coverage of actively growing, emergent foliage.
*Water Lily	<i>Nymphaea odorata</i>	2-3 pints/acre (1% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
*Water primrose	<i>Ludwigia uruguayensis</i>	4-6 pints/acre (1.5% solution), ensure 100% coverage of actively growing, emergent foliage. Tank-mix with glyphosate is NOT recommended and may reduce water primrose control.
Terrestrial/Marginal		
*Soda Apple, aquatic; Nightshade	<i>Solanum tampanicense</i>	2 pints/acre applied to foliage.
*Bamboo, Japanese	<i>Phyllostachys spp.</i>	3-4 pints/acre applied to the foliage when plant is actively growing. Before setting seed head. More foliage will result in greater herbicide uptake, resulting in greater root kill.
Brazilian Pepper; Christmasberry	<i>Schinus terebinthifolius</i>	2-4 pints/acre applied to foliage.
Cattail	<i>Typha spp.</i>	2-4 pints (1% solution) applied to actively growing, green foliage after full leaf elongation. Lower rates will control cattail in the north; higher rates are needed in the south.
Chinese Tallow Tree	<i>Sapium sebiferum</i>	16-24 ounces applied to foliage.
Cogon Grass	<i>Imperata cylindrica</i>	Burn foliage, till area, that fall spray 2 quarts/acre this product + MSO applied to new growth.
Cordgrass, prairie	<i>Spartina spp.</i>	4-6 pints applied to actively growing foliage.
*Cutgrass	<i>Zizaniopsis milacea</i>	4-6 pints applied to actively growing foliage.
*Elephant Grass; Napier Grass-	<i>Pennisetum purpureum</i>	3 pints/acre applied to actively growing foliage.
*Flowering rush	<i>Butomus typha</i>	2-3 pints applied to actively growing foliage.
Giant Reed, Wild Cane	<i>Arundo donax</i>	4-6 pints/acre applied in spring to actively growing foliage.
*Golden Bamboo	<i>Phyllostachys aurea</i>	3-4 pints/acre applied to the foliage when plant is actively growing. Before setting seed head. More foliage will result in greater herbicide uptake, resulting in greater root kill.
Junglerice	<i>Echinochloa colonum</i>	3-4 pints applied to actively growing foliage.
Knapweeds	<i>Centaurea species</i>	Russian Knapweed - 2 to 3 pints + 1 quart/acre MSO fall applied after senescence begins.

Knotweed, Japanese (see Fallopia japonica)	<i>Polygonum cuspidatum</i>	3-4 pints/acre applied postemergence to actively growing foliage.
Melaleuca; Paperbark tree	<i>Melaleuca quinquenervia</i>	For established stands, apply 6 pints/acre this product + 6 pints/acre glyphosate + spray adjuvant. For best results use 4 quarts/A methylated seed oil as an adjuvant. For ground foliar application, uniformly apply to ensure 100% coverage. For broadcast foliar control, apply aerially in a minimum of two passes at 10 gallons/acre applied cross treatment. For spot treatment use a 25% this product + 25% solution of + glyphosate + 1.25% MSO in water applied as a frill or stump treatment.
*Nutgrass; Kili'p'opu	<i>Cyperus rotundus</i>	2 pints this product + 1 quart/acre MSO applied early post-emergence.
*Nutsedge	<i>Cyperus spp.</i>	2-3 pints postemergence to foliage or pre-emergence incorporated, non-incorporated preemergence applications will not control.
Phragmites; Common Reed	<i>Phragmites australis</i>	4-6 pints/acre applied to actively growing, green foliage after full leaf elongation, ensure 100% coverage. If stand has a substantial amount of old stem tissue, mow or burn, allow to regrow to approximately 5' tall before treatment. Lower rates will control phragmites in the north; higher rates are needed in the south.
*Poison Hemlock	<i>Conium maculatum</i>	2 pints this product + 1 quart/acre MSO applied preemergence to early postemergence to rosette, prior to flowering.
Purple Loosestrife	<i>Lythrum salicaria</i>	1 pint/acre applied to actively growing foliage.
Reed canarygrass	<i>Phalaris arundinacea</i>	3-4 pints/acre applied to actively growing foliage.
Rose, swamp	<i>Rosa palustris</i>	2-3 pints/acre applied to actively growing foliage.
Russian-Olive	<i>Elaeagnus angustifolia</i>	2-4 pints/acre or a 1% solution, applied to foliage.
Saltcedar; Tamarisk	<i>Tamarix species</i>	Aerial apply 2 quarts this product + 0.25% v/v NIS applied to actively growing foliage during flowering. For spot spraying use 1% solution of this product + 0.25% v/v NIS and spray to wet foliage. After application wait at least two years before disturbing treated saltcedar. Earlier disturbance can reduce overall control.
Smartweed	<i>Polygonum spp.</i>	2 pints/acre applied early postemergence.
Sumac	<i>Rhus spp.</i>	2-3 pints/acre applied to foliage.
Swamp Morning Glory; Water Spinach; Kangkong	<i>Ipomoea aquatica</i>	1-2 pints/acre this product + 1 quart/acre MSO applied early postemergence.
Torpedo Grass	<i>Panicum repens</i>	4 pints/acre (1 - 1.5% solution), ensure good coverage to actively growing foliage.
*White Top; Hoary Cress	<i>Cardaria draba</i>	1-2 pints/acre applied in spring, to foliage, during flowering.
Willow	<i>Salix spp.</i>	2-3 pints/acre of this product applied to actively growing foliage, ensure good coverage.

*Not approved for use in California.

FOR CONTROL OF UNDESIRABLE WEEDS UNDER PAVED SURFACES

This product 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.

This product 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 applications of this product 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 application of this product.

Apply this product in sufficient water (at least 100 gal. per acre) to ensure thorough and uniform wetting of the soil surface, including the shoulder areas. Add this product 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 this product is needed for herbicide activation. This product 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

This product may be used on unimproved industrial noncropland Bermudagrass and bahiagrass turf, roadsides and utility rights-of-way. The application of this product 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 this product 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 this product at 6 to 12 oz. per acre when the Bermudagrass is dormant. Apply this product 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 pre-emergence control of annual grasses and small seeded broadleaf 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 in bermudagrass turf, apply this product at 8 oz. per acre plus Roundup® 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 all precautions and restrictions on the Garlon® 3A and Roundup® label.

Bahiagrass - Apply this product 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 (<i>Galium</i> spp.)	Little barley (<i>Hordeum pusillum</i>)
Bishopweed (<i>Ptilimnium capillaceum</i>)	Seedling Johnsongrass (<i>Sorghum halepense</i>)
Buttercup (<i>Ranunculus parviflorus</i>)	Wild carrot (<i>Daucus carota</i>)
Carolina geranium (<i>Geranium carolinianum</i>)	White clover (<i>Trifolium repens</i>)
Fescue (<i>Festuca</i> spp.)	Yellow woodsorrel (<i>Oxalis stricta</i>)
Foxtail (<i>Setaria</i> spp.)	

GRASS GROWTH AND SEEDHEAD SUPPRESSION

This product may be used to suppress growth and seedhead development of certain turfgrass in unimproved areas. When applied to desirable turf, this product may result in temporary turf 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 following a mowing, allow sufficient time for the grasses to recover before applying this product or injury may be amplified.

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

Bermudagrass - Apply this product 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 this product at 2 oz. per acre plus 0.25% nonionic surfactant. For increased suppression, this product 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 turf. 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 this product.

TOTAL VEGETATION CONTROL WHERE BAREGROUND IS DESIRED

This product is an effective herbicide for preemergence or post-emergence control of many annual and perennial broadleaf and grass weeds where bareground is desired. This product is particularly effective on hard-to-control perennial grasses. This product at 1.5 to 6 pints per acre can be used alone or in tank-mix with, Finale®, MSMA, diuron,

Pendulum®, Simazine, and Vanquish®, herbicides. The degree and duration of control are dependent on the rate of this product 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*

This product rate in pints	Pendulum® WDG in lbs.	Pendulum® 3.3 EC in Quarts	Diuron in lbs. a.i.
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 for fall applications and in areas that have not been previously treated or that feature heavy infestations.

Applications of this product 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.

Post-emergence Applications: Always use a spray adjuvant (See Adjuvant section of this label) when making a post-emergence 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, this product may be tank-mixed with products such as Razor®, Finale®, or MSMA. Tank mixes with 2,4-D or products containing 2,4-D have reduced performance of this product. Always follow the more restrictive label when tank-mixing.

Spot Treatments: This product 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% of this product plus an adjuvant. For increased burndown, include Razor®, 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.

ADDITIONAL WEEDS CONTROLLED

In terrestrial sites, this product will provide preemergence or post-emergence 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 this product. For established biennials and perennials postemergence applications of this product 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 volume spray solutions (see "Low Volume" section of "Ground Applications"); low volume applications may provide control of the target species with less product per acre than is shown for the broadcast treatments. This product should be used only in accordance with the recommendations on this label.

The relative sensitivity of the species listed below can also be used to determine the relative risk of causing non-target plant injury if any of the below listed species are considered to be desirable within the area to be treated.

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. If naturally occurring resistant biotypes are present in an area, this product should be tank-mixed or applied sequentially with an appropriate registered herbicide having a different mode of action to ensure control.

GRASSES

COMMON NAME	SPECIES	GROWTH HABIT ²
Apply 2-3 pints per acre ¹		
Annual bluegrass	(<i>Poa annua</i>)	A
Broadleaf signalgrass	(<i>Brachiaria platyphylla</i>)	A
Canada bluegrass	(<i>Poa compressa</i>)	P
Downy brome	(<i>Bromus tectorum</i>)	A
Fescue	(<i>Festuca</i> spp.)	A/P
Foxtail	(<i>Setaria</i> spp.)	A
Italian ryegrass	(<i>Lolium multiflorum</i>)	A
Johnsongrass	(<i>Sorghum halepense</i>)	P
Kentucky bluegrass	(<i>Poa pratensis</i>)	P

continued

GRASSES (continued)

COMMON NAME	SPECIES	GROWTH HABIT ²
Apply 2-3 pints per acre ¹		
Lovegrass	(<i>Eragrostis</i> spp.)	A/P
*Napier grass	(<i>Pennisetum purpureum</i>)	P
Orchardgrass	(<i>Dactylis glomerata</i>)	P
Paragrass	(<i>Brachiaria mutica</i>)	P
Quackgrass	(<i>Agropyron repens</i>)	P
Sandbur	(<i>Cenchrus</i> spp.)	A
Sand dropseed	(<i>Sporobolus cryptandrus</i>)	P
Smooth brome	(<i>Bromus inermis</i>)	P
Vaseygrass	(<i>Paspalum urvillei</i>)	P
Wild oats	(<i>Avena fatua</i>)	A
Witchgrass	(<i>Panicum capillare</i>)	A
Apply 3-4 pints per acre ¹		
Barnyardgrass	(<i>Echinochloa crus-gali</i>)	A
Beardgrass	(<i>Andropogon</i> spp.)	P
Bluegrass, Annual	(<i>Poa annua</i>)	A
*Bulrush	(<i>Scirpus validus</i>)	P
Cheat	(<i>Bromus secalinus</i>)	A
Crabgrass	(<i>Digitaria</i> spp.)	A
Crowfootgrass	(<i>Dactyloctenium aegyptium</i>)	A
Fall panicum	(<i>Panicum dichotomiflorum</i>)	A
Giant Reed	(<i>Arundo donax</i>)	A
Goosegrass	(<i>Eleusine indica</i>)	A
Itchgrass	(<i>Rottboellia exaltata</i>)	A
Lovegrass	(<i>Eragrostis</i> spp.)	A
*Maidencane	(<i>Panicum hemitomon</i>)	A
Panicum, Brovntop	(<i>Panicum fasciculatum</i>)	A
Panicum, Texas	(<i>Panicum texanum</i>)	A
Prairie threeawn	(<i>Aristida oligantha</i>)	P
Reed canarygrass	(<i>Phalaris arundinacea</i>)	P
Sandbur, Field	(<i>Cenchrus incertus</i>)	A
Signalgrass	(<i>Brachiaria platyphylla</i>)	A
Wild barley	(<i>Hordeum</i> spp.)	A
Wooly Cupgrass	(<i>Eriochloa villosa</i>)	A
Apply 4-6 pints per acre ¹		
Bahiagrass	(<i>Paspalum notatum</i>)	P
Bermudagrass ¹	(<i>Cynodon dactylon</i>)	P
Big bluestem	(<i>Andropogon gerardii</i>)	P
Cattail	(<i>Typha</i> spp.)	P
Cogongrass	(<i>Imperata cylindrica</i>)	P
Dallisgrass	(<i>Paspalum dilatatum</i>)	P
Feathertop	(<i>Pennisetum villosum</i>)	P
Guineagrass	(<i>Panicum maximum</i>)	P
Phragmites	(<i>Phragmites australis</i>)	P
Prarie cordgrass	(<i>Spartina pectinata</i>)	P
Saltgrass ³	(<i>Distichlis stricta</i>)	P
Sand dropseed	(<i>Sporobolus cryptandrus</i>)	P
Sprangletop	(<i>Leptochloa</i> spp.)	A
Timothy	(<i>Phleum pratense</i>)	P
Wirestem muhly	(<i>Muhlenbergia frondosa</i>)	P

BROADLEAF WEEDS

COMMON NAME	SPECIES	GROWTH HABIT ²
Apply 2-3 pints per acre ¹		
Alligatorweed	(<i>Alternanthera philoxeroides</i>)	A/P
Burdock	(<i>Arctium</i> spp.)	B
Camphorweed	(<i>Heterotheca subaxillaris</i>)	P
Carolina geranium	(<i>Geranium carolinianum</i>)	A

continued

BROADLEAF WEEDS (continued)

COMMON NAME	SPECIES	GROWTH HABIT ²
Apply 2-3 pints per acre ¹		
Clover	(<i>Trifolium</i> spp.)	A/P
Common chickweed	(<i>Stellaria media</i>)	A
Common ragweed	(<i>Ambrosia artemisiifolia</i>)	A
Dandelion	(<i>Taraxacum officinale</i>)	P
Dog fennel	(<i>Eupatorium capillifolium</i>)	A
Filaree	(<i>Erodium</i> spp.)	A
Fleabane	(<i>Erigeron</i> spp.)	A
Goosegrass	(<i>Eleusine indica</i>)	A
Hoary vervain	(<i>Verbena stricta</i>)	P
Horseweed	(<i>Conyza canadensis</i>)	A
Indian mustard	(<i>Brassica juncea</i>)	A
Kochia	(<i>Kochia scoparia</i>)	A
Lambsquarters	(<i>Chenopodium album</i>)	A
*Lespedeza	(<i>Lespedeza</i> spp.)	P
Miners lettuce	(<i>Montia perfoliata</i>)	A
Mullein	(<i>Verbascum</i> spp.)	B
Nettleleaf goosefoot	(<i>Chenopodium murale</i>)	A
Oxeye daisy	(<i>Chrysanthemum leucanthemum</i>)	P
Pepperweed	(<i>Lepidium</i> spp.)	A
Pigweed	(<i>Amaranthus</i> spp.)	A
Plantain	(<i>Plantago</i> spp.)	P
Puncturevine	(<i>Tribulus terrestris</i>)	A
Russian thistle	(<i>Salsola kali</i>)	A
Smartweed	(<i>Polygonum</i> spp.)	A/P
Sorrell	(<i>Rumex</i> spp.)	P
Sunflower	(<i>Helianthus</i> spp.)	A
Sweet clover	(<i>Melilotus</i> spp.)	A/B
Tansymustard	(<i>Descurainia pinnata</i>)	A
Western ragweed	(<i>Ambrosia psilostachya</i>)	P
Wild carrot	(<i>Daucus carota</i>)	B
Wild lettuce	(<i>Lactuca</i> spp.)	A/B
Wild parsnip	(<i>Pastinaca sativa</i>)	B
Wild turnip	(<i>Brassica campestris</i>)	B
Woollyleaf bursage	(<i>Franseria tomentosa</i>)	P
Yellow woodsorrel	(<i>Oxalis stricta</i>)	P
Apply 3-4 pints per acre ¹		
Broom snakeweed ⁴	(<i>Gutierrezia sarothrae</i>)	P
Bull thistle	(<i>Cirsium vulgare</i>)	B
Burclover	(<i>Medicago</i> spp.)	A
Chickweed, Mouseear	(<i>Cerastium vulgatum</i>)	A
Clover, Hop	(<i>Trifolium procumbens</i>)	A
Cocklebur	(<i>Xanthium strumarium</i>)	A
Cudweed	(<i>Gnaphalium</i> spp.)	A
Desert Camelthorn	(<i>Alhagi pseudalhagi</i>)	P
Diffuse knapweed	(<i>Centaurea diffusa</i>)	A
Dock	(<i>Rumex</i> spp.)	P
Fiddleneck	(<i>Amsinckia intermedia</i>)	A
Goldenrod	(<i>Solidago</i> spp.)	P
Henbit	(<i>Lamium alexicaulis</i>)	A
Knotweed, prostrate	(<i>Polygonum aviculare</i>)	A/P
Pokeweed	(<i>Phytolacca americana</i>)	P
Purple loosestrife	(<i>Lythrum salicaria</i>)	P
Purslane	(<i>Portulaca</i> spp.)	A
Pusley, Florida	(<i>Richardia scabra</i>)	A
Rocket, London	(<i>Sisymbrium irio</i>)	A
Rush skeletonweed ⁴	(<i>Chondrilla juncea</i>)	B
Saltbush	(<i>Atriplex</i> spp.)	A

continued

BROADLEAF WEEDS (continued)

COMMON NAME	SPECIES	GROWTH HABIT ²
Apply 3-4 pints per acre¹		
Shepherd's-purse	(<i>Capsella bursa-pastoris</i>)	A
Spurge, Annual	(<i>Euphorbia</i> spp.)	A
Stinging nettle ⁴	(<i>Urtica dioica</i>)	P
Velvetleaf	(<i>Abutilon theophrasti</i>)	A
Yellow starthistle	(<i>Centaurea solstitialis</i>)	A
Apply 4-6 pints per acre¹		
Arrowwood	(<i>Pluchea sericea</i>)	A
Canada thistle	(<i>Cirsium arvense</i>)	P
Giant ragweed	(<i>Ambrosia trifida</i>)	A
Grey rabbitbrush	(<i>Chrysothamnus nauseosus</i>)	P
Little mallow	(<i>Malva parviflora</i>)	B
Milkweed	(<i>Asclepias</i> spp.)	P
Primrose	(<i>Oenothera kunthiana</i>)	P
Russian knapweed	(<i>Centaurea repens</i>)	P
Silverleaf nightshade	(<i>Solanum eleagnifolium</i>)	P
Sowthistle	(<i>Sonchus</i> spp.)	A
Texas thistle	(<i>Cirsium texanum</i>)	P

VINES AND BRAMBLES

COMMON NAME	SPECIES	GROWTH HABIT ²
Apply 1 pint per acre		
Field bindweed	(<i>Convolvulus arvensis</i>)	P
Hedge bindweed	(<i>Calystegia sepium</i>)	A
Apply 2-3 pints per acre¹		
Wild buckwheat	(<i>Polygonum convolvulus</i>)	P
Apply 3-4 pints per acre¹		
Greenbriar	(<i>Smilax</i> spp.)	P
Honeysuckle	(<i>Lonicera</i> spp.)	P
Morningglory	(<i>Ipomoea</i> spp.)	A/P
Poison ivy	(<i>Rhus radicans</i>)	P
Redvine	(<i>Brunnichia cirrhosa</i>)	P
Wild rose	(<i>Rosa</i> spp.)	P
Including: Multiflora rose	(<i>Rosa multiflora</i>)	P
McCartney rose	(<i>Rosa bracteata</i>)	P
Apply 4-6 pints per acre¹		
Blackberry	(<i>Rubus</i> spp.)	P
Dewberry	(<i>Rubus</i> spp.)	P
*Kudzu ⁵	(<i>Pueraria lobata</i>)	P
Trumpet creeper	(<i>Campsis radicans</i>)	P
Virginia creeper	(<i>Parthenocissus quinquefolia</i>)	P
Wild grape	(<i>Vitis</i> spp.)	P

BRUSH SPECIES

COMMON NAME	SPECIES	GROWTH HABIT ²
Apply 4-6 pints per acre¹		
American beech	(<i>Fagus grandifolia</i>)	P
Ash	(<i>Fraxinus</i> spp.)	P
Bald cypress	(<i>Taxodium distichum</i>)	P
Bigleaf maple	(<i>Acer macrophyllum</i>)	P
Black locust ⁵	(<i>Robinia pseudoacacia</i>)	P
Black gum	(<i>Nyssa sylvatica</i>)	P
Box elder	(<i>Acer negundo</i>)	P
Brazilian peppertree	(<i>Schinus terebinthifolius</i>)	P
Cherry	(<i>Prunus</i> spp.)	P
Chinaberry	(<i>Melia azadarach</i>)	P
Chinese tallowtree	(<i>Sapium sebiferum</i>)	P
Dogwood	(<i>Cornus</i> spp.)	P
Elm ⁶	(<i>Ulmus</i> spp.)	P
Hawthorn	(<i>Crataegus</i> spp.)	P
Hickory	(<i>Carya</i> spp.)	P
Honeylocust ⁵	(<i>Gleditsia triacanthos</i>)	P
Maple	(<i>Acer</i> spp.)	P

continued

BRUSH SPECIES (continued)

COMMON NAME	SPECIES	GROWTH HABIT ²
Apply 4-6 pints per acre¹		
Melaleuca	(<i>Melaleuca quiquenervia</i>)	P
Mulberry	(<i>Morus</i> spp.)	P
Oak	(<i>Quercus</i> spp.)	P
Persimmon	(<i>Diospyros virginiana</i>)	P
*Pine ⁵	(<i>Pinus</i> spp.)	P
Poplar	(<i>Populus</i> spp.)	P
Privet	(<i>Ligustrum vulgare</i>)	P
Red Alder	(<i>Alnus rubra</i>)	P
Red Maple	(<i>Acer rubrum</i>)	P
Rubber rabbitbrush	(<i>Chrysothamnus nauseosus</i>)	P
Russian Olive	(<i>Eleagnus angustifolia</i>)	P
Sassafras	(<i>Sassafras albidum</i>)	P
Saltcedar	(<i>Tamarix ramosissima</i>)	P
Sourwood	(<i>Oxydendrum arboreum</i>)	P
Sumac	(<i>Rhus</i> spp.)	P
Sweetgum	(<i>Liquidambar styraciflua</i>)	P
*Water willow	(<i>Justica americana</i>)	P
Willow	(<i>Salix</i> spp.)	P
Yellow poplar	(<i>Liriodendron tulipifera</i>)	P

*Not approved for use in California

¹ The higher rates should be used where heavy or well-established infestations occur.

² Growth Habit - A = Annual, B = Biennial, P = Perennial

³ Use a minimum of 75 GPA - Control of established stands may require repeat applications.

⁴ For best results early postemergence applications are required.

⁵ Tank mix with glyphosate or triclopyr.

⁶ Tank mix with glyphosate.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Do not store below 10°F.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or in an approved waste disposal facility.

CONTAINER DISPOSAL FOR 2.5 GALLON AND 15 GALLON: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in an approved sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

WARRANTY DISCLAIMER

The directions for use of this product must be followed carefully. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED "AS IS" BY MANUFACTURER OR SELLER AND (2) MANUFACTURER AND SELLER MAKE 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 SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. UNINTENDED CONSEQUENCES, INCLUDING BUT NOT LIMITED TO INEFFECTIVENESS, MAY RESULT BECAUSE OF SUCH FACTORS AS THE PRESENCE OR ABSENCE OF OTHER MATERIALS USED IN COMBINATION WITH THE GOODS, OR THE MANNER OF USE OR APPLICATION, INCLUDING WEATHER, ALL OF WHICH ARE BEYOND THE CONTROL OF MANUFACTURER OR SELLER AND ASSUMED BY BUYER OR USER. THIS WRITING CONTAINS ALL OF THE REPRESENTATIONS AND AGREEMENTS BETWEEN BUYER, MANUFACTURER AND SELLER, AND NO PERSON OR AGENT OF MANUFACTURER OR SELLER HAS ANY AUTHORITY TO MAKE ANY REPRESENTATION OR WARRANTY OR AGREEMENT RELATING IN ANY WAY TO THESE GOODS.

LIMITATION OF LIABILITY

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL MANUFACTURER OR SELLER BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, OR FOR DAMAGES IN THEIR NATURE OF PENALTIES RELATING TO THE GOODS SOLD, INCLUDING USE, APPLICATION, HANDLING, AND DISPOSAL. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, MANUFACTURER OR SELLER SHALL NOT BE LIABLE TO BUYER OR USER BY WAY OF INDEMNIFICATION TO BUYER OR TO CUSTOMERS OF BUYER, IF ANY, OR FOR ANY DAMAGES OR SUMS OF MONEY, CLAIMS OR DEMANDS WHATSOEVER, RESULTING FROM OR BY REASON OF, OR RISING OUT OF THE MISUSE, OR FAILURE TO FOLLOW LABEL WARNINGS OR INSTRUCTIONS FOR USE, OF THE GOODS SOLD BY MANUFACTURER OR SELLER TO BUYER. ALL SUCH RISKS SHALL BE ASSUMED BY THE BUYER, USER, OR ITS CUSTOMERS. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BUYER'S OR USER'S EXCLUSIVE REMEDY, AND MANUFACTURER'S OR SELLER'S TOTAL LIABILITY SHALL BE FOR DAMAGES NOT EXCEEDING THE COST OF THE PRODUCT.

If you do not agree with or do not accept any of directions for use, the warranty disclaimers, or limitations on liability, do not use the product, and return it unopened to the Seller, and the purchase price will be refunded.

(RV010408A)

- © Polaris and Razor are registered trademarks of Nufarm Americas Inc.
- © Pendulum is a registered trademark of BASF.
- © Vanquish is a registered trademark of Syngenta Group Company.
- ™ Microfoil is a trademark of Rhone Poulenc Ag. Company.
- ™ Thru-Valve is a trademark of Waldrum Specialties.
- © Campaign and Roundup are registered trademarks of Monsanto Company.
- © Krenite and Escort are registered trademarks of E. I. du Pont de Nemours and Company.
- © Embark is a registered trademark of PBI Gordon Corporation.
- © Finale is a registered trademark of Bayer.
- © Garlon and Accord are registered trademark of Dow Agrosiences LLC.

MANUFACTURED FOR
NUFARM AMERICAS INC.
BURR RIDGE, IL 60527



150 Harvester Drive • Suite 200
Burr Ridge, IL 60527
Phone: 630.455.2000 • Fax: 630.455.2001
Toll-free 1.800.345.3330
www.nufarm.com/US

SPL.0308.Polaris
© 2008 Nufarm Americas Inc.



For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,
Call CHEMTREC Day or Night: 1-800-424-9300
For Medical Emergencies Only, Call 1-877-325-1840

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Nufarm Polaris® Herbicide
EPA Reg. No.: 228-534
Synonyms: Imazapyr, Isopropylamine Salt; IPA Salt of Imazapyr; 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridine-carboxylic acid, salt with 2-propanamine (1:1)
Product Type: Herbicide
Company Name: Nufarm Americas Inc.
150 Harvester Drive, Suite 200
Burr Ridge, IL 60527
Date of Issue: January 14, 2008
Sections Revised: New
Supersedes: New

2. HAZARDS IDENTIFICATION

Emergency Overview:

Appearance and Odor: Blue colored liquid with a faint ammonia-like odor.

Warning Statements: Keep out of reach of children. CAUTION. Minimally toxic. Acute toxicity tests show very low potential for immediate risk in handling this product. Follow instructions for personal protective equipment and user safety recommendations.

Potential Health Effects:

Likely Routes of Exposure: Inhalation, eye and skin contact.

Eye Contact: Minimally irritating based on toxicity studies.

Skin Contact: Slightly toxic and slightly irritating based on toxicity studies.

Ingestion: Slightly toxic based on toxicity studies.

Inhalation: Low inhalation toxicity.

Medical Conditions Aggravated by Exposure: None known.

See Section 11: TOXICOLOGICAL INFORMATION for more information.

Potential Environmental Effects:

Treatment of aquatic weeds can result in oxygen depletion due to decomposition of dead plants. Oxygen loss, if severe, can cause fish suffocation. This product is phytotoxic at extremely low concentrations. Non-target plants may be adversely affected from drift.

See Section 12: ECOLOGICAL INFORMATION for more information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS NO.	% BY WEIGHT
Isopropylamine Salt of Imazapyr	81510-83-0	28.7
Other Ingredients		71.3

4. FIRST AID MEASURES

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.

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.

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.

5. FIRE FIGHTING MEASURES

Flash Point: >212°F (>100°C) Pensky-Martens

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 NIOSH/MSHA 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 oxides of carbon, hydrogen and nitrogen.

National Fire Protection Association (NFPA) Hazard Rating:

Rating for this product: Health: 1 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 Cleanup 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: Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE

Handling:

Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing/Personal Protective Equipment (PPE) immediately if pesticide gets inside. Then wash

thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Spray solutions of this product should be mixed, stored and applied only in stainless steel, fiberglass, plastic and plastic-lined steel containers. Do not mix, store or apply this product or spray solutions of this product in unlined steel (except stainless steel) containers or spray tanks.

Storage:

Do not store below 10°F. Do not contaminate water, food or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Engineering Controls:**

Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

Personal Protective Equipment:

Eye/Face Protection: Not normally required. To avoid contact with eyes, wear chemical goggles or shielded safety glasses. An emergency eyewash or water supply should be readily accessible to the work area.

Skin Protection: To avoid contact with skin, wear long pants, long-sleeved shirt, socks, shoes and chemical-resistant gloves made of any waterproof material. An emergency shower or water supply should be readily accessible to the work area.

Respiratory Protection: Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved 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 should 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:

Component	OSHA		ACGIH		Unit
	TWA	STEL	TWA	STEL	
Isopropylamine Salt of Imazapyr	NE	NE	NE	NE	

NE = Not Established

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Blue colored liquid with a faint ammonia-like odor.

Boiling Point: Not determined

Solubility in Water: Soluble

Density: 8.80 pounds/gallon

Specific Gravity: 1.057 @ 20°C

Evaporation Rate: Not determined

Vapor Density: Not determined

Freezing Point: Not determined

Vapor Pressure: Not determined

pH: 6.26 (1% solution)

Viscosity: 3.766 cst @ 20°C

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.

13. DISPOSAL CONSIDERATIONS**Waste Disposal Method:**

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Handling and Disposal:

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in an approved sanitary landfill, or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

14. TRANSPORTATION INFORMATION

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

DOT

Non Regulated – See 173.132(b)(3)

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

Section 313 Toxic Chemical(s):

None

Reportable Quantity (RQ) under U.S. CERCLA:

None

RCRA Waste Code:

None

State Information:

Other state regulations may apply. Check individual state requirements.

California Proposition 65: Not listed

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 product 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.

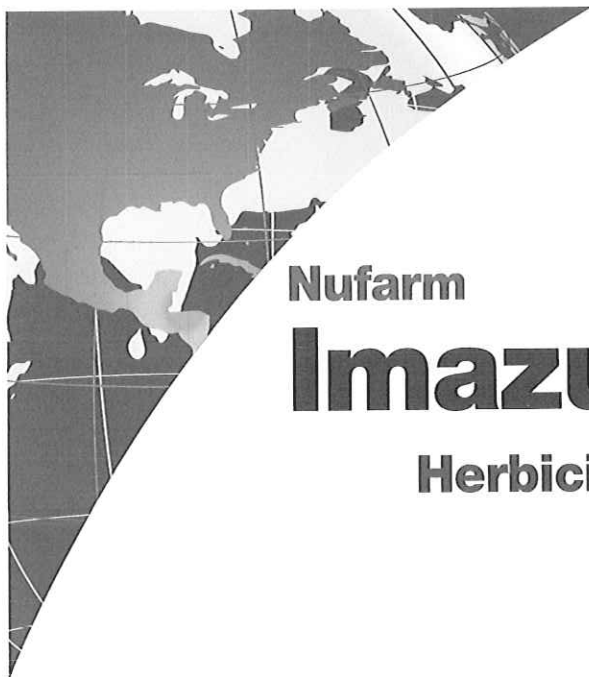
Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Nufarm Americas Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition 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 of or 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.

Polaris is a registered trademark of Nufarm Americas Inc.

27 H

SPECIMEN LABEL

This information is for promotional purposes only. Space considerations may require information to be omitted. Always refer to the actual package for complete label verbiage. This product may not yet be available or approved for sale or use in your area.



Nufarm
Imazuron
Herbicide

ACTIVE INGREDIENTS:

Imazapyr (2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridinecarboxylic acid).....	7.78%
Diuron (3-[3,4-dichlorophenyl]-1,1-dimethylurea).....	62.22%

OTHER INGREDIENTS: 30.00%

TOTAL: 100.00%

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 the label, find someone to explain it to you in detail.)

See Inside Booklet for FIRST AID and additional
PRECAUTIONARY STATEMENTS

EPA Reg. No. 228-654

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

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

Manufactured for
Nufarm Americas Inc.
150 Harvester Drive
Burr Ridge, IL 60527



**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION**

Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. 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: barrier laminate, butyl rubber \geq 14 mils, nitrile rubber \geq 14 mils, or viton \geq 14 mils. If you want more options, follow the instructions for Category A on an EPA chemical resistance category selection chart.

All applicators and other handlers must wear:

- Long sleeved shirt and long pants,
- Shoes plus socks, and
- Chemical-resistant gloves made of any waterproof material such as barrier laminate, butyl rubber \geq 14 mils, nitrile rubber \geq 14 mils, or viton \geq 14 mils
- NIOSH approved particulate filtering respirator equipped with N or R, P or HE class filter media. The respirator should have a NIOSH approval number prefix "TC-84A". Groundboom applicators do not need to wear a respirator.
- A chemical resistant apron when mixing, loading, or cleaning equipment.

See Engineering Controls for additional requirements.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

ENGINEERING CONTROLS

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

Flaggers supporting aerial applications must use an enclosed cab that meets the definition in the Worker Protection Standard for Agricultural Pesticides [40 CFR 170.240(d)(5)] for dermal protection. In addition, flaggers must wear long-sleeved shirt, long pants, shoes, and socks.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

FIRST AID

IF SWALLOWED	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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 OR CLOTHING	<ul style="list-style-type: none">• 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.
IF INHALED	<ul style="list-style-type: none">• 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 1-800-424-9300 for emergency medical treatment information.

ENVIRONMENTAL HAZARDS

This product is toxic to plants. Drift and run-off may be hazardous to plants in water adjacent to treated areas. For terrestrial uses. 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. Apply this product only as specified on this label.

PHYSICAL OR CHEMICAL HAZARDS

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

DIRECTIONS FOR USE

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

USE PRECAUTIONS

- Do NOT enter or allow others to enter treated areas until sprays have dried.
- Aerial application is prohibited **except** for application to rights-of-way.
- DO NOT USE IN CALIFORNIA.
- Do NOT apply more than a total of 12 lbs. a.i. of diuron (19 pounds per acre of this product) or more than two applications of diuron in a 12-month period.
- Do not apply more than 12 lbs. ai/A of diuron per application in areas of high rainfall or dense vegetation. Do not apply more than 8 lbs. ai/A of diuron per application in all other areas.
- Do not reapply this product or any other product containing diuron within 90 days of treatment with any product containing diuron.
- DO NOT mix, store or apply this product or spray solutions of this product in unlined steel (except stainless steel) containers or spray tanks.
- DO NOT use on food or feed crops.
- DO NOT treat irrigation ditches, or water used for crop irrigation or for domestic purposes.
- 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.
- DO NOT 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 chemical may be washed or moved into contact with their roots.
- DO NOT use on turfgrass at residential sites (including homes, apartment complexes, condominium grounds, daycare facilities, schools, playgrounds, parks, recreational areas, and sports fields).
- DO NOT side trim desirable vegetation with this product.
- DO NOT allow this product to come in contact with other fertilizers, insecticides, fungicides and seeds.
- Take all measures possible to prevent drift of spray to desirable plants.
- Be sure to clean application equipment after using this product by thoroughly flushing with water.
- Application with a spoon, a pump-feed backpack spreader or a gravity feed backpack spreader is PROHIBITED.
- Use of this product in certain portions of California, Oregon, and Washington is subject to the January 22, 2004 Order for Injunctive relief in Washington Toxics Coalition, et. al. v. EP, C01-0132C, (W.D. WA). For further information, please refer to <http://www.epa.gov/espp/wtcl/>.

GENERAL INFORMATION

This product is a dispersible granule that is mixed with water and a spray adjuvant and applied as a spray solution to the following noncropland areas where bare ground is desired: industrial non-crop areas including utility plant sites, petroleum tank farms, pumping installations, storage areas, railroads, utility, and pipeline rights-of-way; highway rights-of-way; non-irrigation ditchbanks; fence rows; farmyards; and non-crop areas around farm buildings. This product may also be used to control weeds under paved surfaces.

This product controls most annual and perennial grasses and broadleaf weeds in addition to many brush and vine species. This product also provides residual control of weeds that germinate in treated areas.

For annual weed control, either preemergence or postemergence applications may be used; however, a late preemergence to early postemergence application provides the best results in most situations.

For perennial weed control, this product is only effective when applied postemergence and will not control perennial weeds that have not emerged at the time of application. For best results, applications should be made when the weeds are growing vigorously and the spray solution should include a spray adjuvant. For specific instructions, see the "Adjuvants" section of this label.

The duration of residual weed control depends upon the types of weeds present, the application rate, and weather conditions. Longer residual control occurs in areas with sensitive weed species, higher product use rates, lower precipitation and cooler soil temperatures. Higher than average rainfall or warmer than normal temperatures can significantly affect the residual control this product provides and shorten the overall length of control.

Precautions for Avoiding Injury to Non-Target Plants

Untreated trees may be affected by root uptake of this product through movement into the topsoil and injury or loss of desirable trees or other plants may result if this product 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 contact with their roots. Treatment of powdery dry soil or light sandy soil when there is little likelihood of rainfall soon after treatment may result in off target movement and possible damage to desirable plants when soil particles are moved by water and/or wind. Exposure to this product may injure or kill most crops and injury to crops may result if treated soil is washed, blown or moved onto land used to produce crops.

SPRAY DRIFT

Use best practices to avoid drift to all other crops and non-target areas. Do not apply when conditions favor drift from target areas. The interaction of many equipment-and weather-related factors determine the potential for spray drift. Avoiding spray drift at the application site is the responsibility of the applicator. The applicator must follow the most restrictive precautions to avoid drift, including those found in this labeling as well as applicable state and local regulations and ordinances. A drift control agent may reduce drift, however, it may also decrease weed control.

Aerial Applications:

- (1) Applicators are required to use a Coarse or coarser droplet size (ASABE S572) or, if specifically using a spinning atomizer nozzle, applicators are required to use a volume mean diameter (VMD) of 385 microns or greater for release heights below 10 feet; Applicators are required to use a Very Coarse or coarser droplet size or, if specifically using a spinning atomizer nozzle, applicators are required to use a VMD of 475 microns or greater for release heights above 10 feet; Applicators must consider the effects of nozzle orientation and flight speed when determining droplet size.
- (2) Applicators are required to use upwind swath displacement.
- (3) The spray boom should be mounted on the aircraft so as to minimize drift caused by wing tip vortices. The boom length must not exceed 60% of the wingspan or 90% of the rotor blade diameter to reduce spray drift.
- (4) Applications with wind speeds less than 3 mph and with wind speeds greater than 10 mph are prohibited.
- (5) Applications into temperature inversions are prohibited.
- (6) Do not apply by air if sensitive non-target crops are within 100 feet of the application site.

Ground Boom Applications:

Apply with nozzle height no more than 4 feet above the ground or plant canopy and Coarse or coarser droplet size (ASABE S572) or, if specifically using a spinning atomizer nozzle, applicators are required to use a volume mean diameter (VMD) of 385 microns or greater.

Use the lowest nozzle height consistent with safety and efficacy.

Direct spray into target vegetation.

Apply only when wind speed is less than or equal to 10 miles per hour.

Do not apply into temperature inversions.

APPLICATION INSTRUCTIONS

For rights-of-way and non-crop areas:

- The maximum rate per application is 19 lbs./acre of this product (equivalent to 12 lbs. diuron active ingredient per acre) in areas of high rainfall or dense vegetation.
- For all other areas, the maximum rate per application is 13 lbs./acre of this product (equivalent to 8 lbs. diuron active ingredient per acre).
- Make a maximum of two applications per year.
- The minimum retreatment interval is 90 days.

Mix this product in water and apply the specified gallons per acre of spray volume using properly calibrated equipment to deliver a uniformly distributed spray pattern. Apply this product at 7-19 pounds of product per acre, although rates as low as 5 pounds per acre may be used *only* if tank mixed with another herbicide (see the TANK MIXES section below). For retreatment purposes within the same growing season, apply this product at a rate of less than 7 pounds per acre.

Rainfall may significantly affect length of residual weed control achieved with this product and in cases of increasing rainfall amounts, higher rates may need to be applied to achieve the desired residual control. Refer to the following table for product rates for different annual rainfall amounts. Actual use rates will depend upon the length of residual control desired as well as weed pressure and environmental conditions.

Average Annual Rainfall	Product Rate
Less than 15 inches	7-10 pounds [†]
Between 15 and 35 inches	8-13 pounds
Greater than 35 inches	13-19 pounds

[†] Initial applications of this product may be made at rates as low as 5-6 pounds per acre, but must be tank mixed with another herbicide (see the TANK MIXES section below).

When both mixing and spraying, be sure to maintain sufficient agitation to keep product suspended in spray mixture.

Postemergence Applications: When making postemergence applications, always use a spray adjuvant (see "Adjuvants" section of this label). For best results on tough to control perennial weeds, applications should be made in combination with one quart per acre of methylated seed oil and at a total volume of 100 gallons per acre or less. For faster burndown or brown-out of target weeds, tank mix this product with products such as Roundup[®], or Finale[®] (refer to the TANK MIXES section for specific instructions).

Tank Mixes

Tank Mix this product with Roundup[®], Karmex[®] (Diuron), Oust[®], Garlon[®], Finale[®], MSMA, Banvel[®], Vanquish[®], Pendulum[®], Plateau[®], or Arsenal[®]. Do not use a tank mix product if the tank mix product label prohibits such mixing. Consult the manufacturer's labels for specific rates and weeds controlled, and always follow the more restrictive label instructions and restrictions on all labels used when making a tank-mix application.

NOTE: Tank-mixes with 2,4-D or products that contain 2,4-D have resulted in reduced perennial weed control performance.

For Control of Undesirable Weeds under Paved Surfaces

Apply this product only to areas that have been prepared according to good construction practices. All rhizomes, stolons, tubers, or other vegetative plant parts present in the site should be removed by scalping with a grader blade to a depth sufficient to ensure their complete removal.

Apply this product under asphalt, pond liners and other paved areas *only* in industrial sites or where the pavement has a barrier along the perimeter that will prevent encroachment of roots of desirable plants. Sites should be paved as soon as possible after application.

NOTE: Do not use this product where landscape plantings could be anticipated, or under paved areas such as driveways or parking lots on residential properties. Do not use in recreational areas such as under bike or jogging paths, golf cart paths, or tennis courts. 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.

Application Directions for Paved Surfaces:

When final grade is established, apply this product in sufficient water (at least 100 gallons per acre) to ensure thorough and uniform wetting of the soil surface, including the shoulder areas. Do not move soil following application. In the spray tank, mix clean water with 19 pounds of product per acre during the filling operation and be sure to agitate before spraying.

Incorporation of this product is required to activate the herbicide if the soil is not moist prior to treatment. Use a rototiller or disc to incorporate product into the soil to a depth of 4 to 6 inches. One inch of rainfall or irrigation will also provide uniform incorporation. If using water to incorporate, do not allow treated soil to wash or move into untreated areas.

Adjuvants

Nonionic Surfactants: A nonionic surfactant at a 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) may be used with this product. For best results, select a nonionic surfactant with a HLB (hydrophilic to lipophilic balance) ratio between 12 - 17 and that has 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: Methylated seed oils are the adjuvant of choice and research indicates that these oils may aid in the deposition and uptake of this product by plants under moisture or temperature stress and will increase control of perennial weeds. Use a methylated seed oil or vegetable-based seed oil concentrate at the rate of 1.5 - 2 pints per acre in place of a surfactant. 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 a nonionic surfactant as described above may be used instead.

Silicone-Based Surfactants: Silicone-based surfactants may allow greater spreading on the leaf surface as compared to conventional nonionic surfactants by reducing the surface tension of the spray droplets. However, some silicone-based surfactants may limit herbicide uptake by drying too rapidly. Refer to the manufacturer's label for specific rate instructions.

Fertilizer/Surfactant Blends: Use 2 - 3 pints of nitrogen-based liquid fertilizers (such as 28%N, 32%N, 10-34-0, or ammonium sulfate) per acre in combination with the specified rate of nonionic surfactant, methylated seed oil or vegetable/seed oil concentrate. Do not use fertilizers in a tank mix without a nonionic surfactant, methylated seed oil or vegetable/seed oil concentrate.

Weeds Controlled

When used at the rates listed in the APPLICATION INSTRUCTIONS section, this product provides preemergence or postemergence control with residual control (control of newly germinating seedlings) of the following target vegetation species. In general, preemergence and postemergence applications of this product control annual weeds while postemergence applications control established biennials and perennials. Use this product only in accordance with the instructions on this label.

Note Regarding Resistant Biotypes: Naturally occurring biotypes of some of the weeds listed on this label (pigweed, kochia and Russian thistle for example) may not be effectively controlled by this and/or other herbicides with the ALS/AHAS enzyme inhibiting mode of action (such as OUST). To ensure control if naturally occurring ALS/AHAS resistant biotypes are present in an area, tank mix or apply this product sequentially with an appropriate registered herbicide having a different mode of action.

WEEDS CONTROLLED¹

GRASSES			
Name (Species)	Growth Habit ²	Name (Species)	Growth Habit ²
Annual bluegrass (<i>Poa annua</i>)	A	Kyllinga (<i>Cyperus brevifolius</i>)	A
Annual ryegrass (<i>Lolium multiflorum</i>)	A	Lovegrass (<i>Eragrostis</i> spp.)	A/P
Annual sweet vernalgrass (<i>Anthoxanthum odoratum</i>)	A	Maidencane (<i>Arundinaria amabilis</i>)	P
Bahiagrass ⁷ (<i>Paspalum notatum</i>)	P	Orchardgrass (<i>Dactylis glomerata</i>)	P
Barnyardgrass (<i>Echinochloa crusgalli</i>)	A	Paragrass (<i>Brachiaria mutica</i>)	P
Beardgrass (<i>Andropogon</i> spp.)	P	Peppergrass (<i>Lepidium virginicum</i>)	A
Bermudagrass ^{7,8,9} (<i>Cynodon dactylon</i>)	P	Phragmites (<i>Phragmites australis</i>)	P
Big bluestem ⁷ (<i>Andropogon gerardii</i>)	P	Prairie cordgrass (<i>Spartina pectinata</i>)	P
Broadleaf signalgrass (<i>Brachiaria platyphylla</i>)	A	Prairie threeawn (<i>Aristida oligantha</i>)	P
Canada bluegrass (<i>Poa Compressa</i>)	P	Quackgrass (<i>Agropyron repens</i>)	P
Cattail (<i>Typha</i> spp.)	P	Raltail fescue (<i>Vulpia myuros</i>)	A
Cheat (<i>Bromus secalinus</i>)	A	Reed canarygrass (<i>Phalaris arundinacea</i>)	P
Cogongrass (<i>Imperata cylindrical</i>)	P	Ricegrass (<i>Oryzopsis hymenoides</i>)	A
Crabgrass (<i>Digitaria</i> spp.)	A	Saltgrass ^{7,8,9} (<i>Distichlis stricta</i>)	P
Dallisgrass ⁷ (<i>Paspalum dilatatum</i>)	P	Sand dropseed ⁷ (<i>Sporobolus cryptandrus</i>)	P
Downy brome (<i>Bromus tectorum</i>)	A	Sandbur (<i>Cenchrus</i> spp.)	A
Fall panicum (<i>Panicum dichotomiflorum</i>)	A	Smooth brome (<i>Bromus inermis</i>)	P
Feathertop (<i>Pennisetum villosum</i>)	P	Sprangletop ^{6,7} (<i>Leptochloa</i> spp.)	A
Fescue (<i>Festuca</i> spp.)	A/P	Timothy (<i>Phleum pratense</i>)	P
Foxtail (<i>Setaria</i> spp.)	A	Torpedograss (<i>Panicum repens</i>)	P
Goosegrass (<i>Eleusine indica</i>)	A	Vaseygrass (<i>Paspalum urvillei</i>)	P
Guineagrass (<i>Panicum maximum</i>)	P	Velvetgrass (<i>Holcus lanatus</i>)	A
Italian ryegrass (<i>Lolium multiflorum</i>)	A	Wild barley (<i>Hordeum</i> spp.)	A
Johnsongrass (<i>Sorghum halepense</i>)	P	Wild oats (<i>Avena fatua</i>)	A
Kentucky bluegrass (<i>Poa pratensis</i>)	P	Wirestem muhly (<i>Muhlenbergia frondosa</i>)	P
		Witchgrass (<i>Panicum capillare</i>)	A

BROADLEAF WEEDS			
Name (Species)	Growth Habit ²	Name (Species)	Growth Habit ²
Arrowwood (<i>Pluchea sericea</i>)	A	Nettleleaf goosefoot (<i>Chenopodium murale</i>)	A
Ageratum (<i>Asteraceae houstonianum</i>)	P	Oxeye daisy (<i>Chrysanthemum leucanthemum</i>)	P
Broom snakeweed ³ (<i>Gutierrezia sarothrae</i>)	P	Pennycress (<i>Thlaspi</i> spp.)	A
Bull thistle (<i>Cirsium vulgare</i>)	B	Pepperweed (<i>Lepidium</i> spp.)	A
Burdock (<i>Arctium</i> spp.)	B	Pigweed ⁶ (<i>Amaranthus</i> spp.)	A
Canada thistle ⁷ (<i>Cirsium arvense</i>)	P	Pineapple weed (<i>Matricaria matricarioides</i>)	P
Carolina geranium (<i>Geranium carolinianum</i>)	A	Plantain (<i>Plantago</i> spp.)	P
Carpetweed (<i>Mollugo verticillata</i>)	A	Pokeweed (<i>Phytolacca Americana</i>)	P
Clover (<i>Trifolium</i> spp.)	A/P	Prickly sida (<i>Sida spinosa</i>)	A
Cocklebur (<i>Xanthium strumarium</i>)	A	Primrose (<i>Oenothera kunthiana</i>)	P
Common chickweed (<i>Stellaria media</i>)	A	Puncturevine (<i>Tribulus terrestris</i>)	A
Common ragweed (<i>Ambrosia artemisiifolia</i>)	A	Purple loosestrife ³ (<i>Lythrum salicaria</i>)	P
Corn spurry (<i>Spergula arvensis</i>)	P	Purslane (<i>Portulaca</i> spp.)	A
Dandelion (<i>Taraxacum officinale</i>)	P	Ragweed (<i>Ambrosia</i> spp.)	A
Dayflower (<i>Commelina</i> spp.)	A/P	Rush skeletonweed ³ (<i>Chondrilla juncea</i>)	B
Desert Camelthorn (<i>Alhagi pseudalhagi</i>)	P	Russian knapweed (<i>Centaurea repens</i>)	P
Diffuse knapweed (<i>Centaurea diffusa</i>)	A	Russian thistle ³ (<i>Salsola kali</i>)	A
Dock (<i>Rumex</i> spp.)	P	Saltbush (<i>Atriplex</i> spp.)	A
Dogfennel (<i>Eupatorium capillifolium</i>)	A	Sesbania (<i>Sesbania</i> spp.)	A
Filaree (<i>Erodium</i> spp.)	A	Sicklepod (<i>Cassia obtusifolia</i>)	A
Fleabane (<i>Erigeron</i> spp.)	A	Silverleaf nightshade (<i>Solanum elaeagnifolium</i>)	P
Giant ragweed ⁷ (<i>Ambrosia trifida</i>)	A	Shepherd's-purse (<i>Capsella bursa-pastoris</i>)	A
Goldenrod (<i>Solidago</i> spp.)	P	Smartweed (<i>Polygonum</i> spp.)	A/P
Grey rabbitbrush (<i>Chrysothamnus nauseosus</i>)	P	Sorrell (<i>Rumex</i> spp.)	P
Gromwell (<i>Lithospermum</i> spp.)	A	Sowthistle (<i>Sonchus</i> spp.)	A

BROADLEAF WEEDS			
Name (Species)	Growth Habit ²	Name (Species)	Growth Habit ²
Groundcherry (<i>Physalis</i> spp.)	A/P	Speedwell (<i>Veronica</i> spp.)	A
Hawksbeard (<i>Crepis</i> spp.)	A	Stinging nettle ³ (<i>Urtica dioica</i>)	P
Hoary vervain (<i>Verbena stricta</i>)	P	Sunflower (<i>Helianthus</i> spp.)	A
Horsenettle (<i>Solanum Canadensis</i>)	P	Sweet clover (<i>Mellilotus</i> spp.)	A/B
Horseweed (<i>Conyza Canadensis</i>)	A	Tansymustard (<i>Descurainia pinnata</i>)	A
Indian mustard (<i>Brassica juncea</i>)	A	Texas thistle (<i>Cirsium texanum</i>)	P
Japanese bamboo (<i>Polygonum cuspidatum</i>)	P	Velvetleaf (<i>Abutilon theophrasti</i>)	A
Knawel (<i>Scleranthus annuus</i>)	A	Western ragweed (<i>Ambrosia psilostachya</i>)	P
Kochia ³ (<i>Kochia scoparia</i>)	A	Wild buckwheat (<i>Polygonum convolvulus</i>)	A
Lambsquarters (<i>Chenopodium album</i>)	A	Wild carrot (<i>Daucus carota</i>)	B
Lespedeza (<i>Lespedeza</i> spp.)	P	Wild lettuce (<i>Lactuca</i> spp.)	A/B
Little mallow (<i>Malva parviflora</i>)	B	Wild parsnip (<i>Pastinaca sativa</i>)	B
Marigold (<i>Tagetes</i> spp.)	P	Wild radish (<i>Raphanus raphanistrum</i>)	B
Milkweed (<i>Asclepias</i> spp.)	P	Wild turnip (<i>Brassica campestris</i>)	B
Miners lettuce (<i>Montia perfoliata</i>)	A	Woolly leaf bursage (<i>Franseria tomentosa</i>)	P
Morningglory (<i>Ipomoea</i> spp.)	A/P	Yellow starthistle (<i>Centaurea solstitialis</i>)	A
Mullein (<i>Verbascum</i> spp.)	B	Yellow woodsorrel (<i>Oxalis stricta</i>)	P

VINES AND BRAMBLES			
Name (Species)	Growth Habit ²	Name (Species)	Growth Habit ²
Blackberry ⁴ (<i>Rubus</i> spp.)	P	Morningglory (<i>Ipomoea</i> spp.)	A/P
Dewberry ⁴ (<i>Rubus</i> spp.)	P	Poison Ivy (<i>Rhus radicans</i>)	P
Field bindweed (<i>Convolvulus arvensis</i>)	P	Redvine (<i>Brunnichia cirrhosa</i>)	P
Greenbriar (<i>Smilax</i> spp.)	P	Trumpet creeper ⁷ (<i>Campsis radicans</i>)	P
Hedge bindweed (<i>Calystegia sepium</i>)	A	Virginia creeper ⁷ (<i>Parthenocissus quinquefolia</i>)	P
Honeysuckle (<i>Lonicera</i> spp.)	P	Wild buckwheat (<i>Polygonum convolvulus</i>)	P
Kudzu ⁵ (<i>Pueraria lobata</i>)	P	Wild grape (<i>Vitis</i> spp.)	P
		Wild rose (<i>Rosa</i> spp.)	P

BRUSH

This product controls over 30 species of brush.

¹ Where heavy or well-established infestations occur, use the higher specified rates.

² Growth Habit: A= Annual, B= Biennial, P= Perennial

³ Early postemergence applications are required for best results.

⁴ The degree of control is species dependent; some *Rubus* species may not be completely controlled.

⁵ Use a minimum of 75 GPA; repeat applications may be required to control established stands.

⁶ Control is species dependent; for preemergence control a tank-mix with Pendulum herbicide and/or a postemergence application of a labeled herbicide may be required.

⁷ A minimum of 13 pounds of this product per acre is required.

⁸ Tank-mix with OUST for best results.

⁹ Repeat applications may be required to control established stands.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in a cool, dry area in original container.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment, then offer for recycling if available, or 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.

WARRANTY DISCLAIMER

The directions for use of this product must be followed carefully. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED "AS IS" BY MANUFACTURER OR SELLER AND (2) MANUFACTURER AND SELLER MAKE 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 SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. UNINTENDED CONSEQUENCES, INCLUDING BUT NOT LIMITED TO INEFFECTIVENESS, MAY RESULT BECAUSE OF SUCH FACTORS AS THE PRESENCE OR ABSENCE OF OTHER MATERIALS USED IN COMBINATION WITH THE GOODS, OR THE MANNER OF USE OR APPLICATION, INCLUDING WEATHER, ALL OF WHICH ARE BEYOND THE CONTROL OF MANUFACTURER OR SELLER AND ASSUMED BY BUYER OR USER. THIS WRITING CONTAINS ALL OF THE REPRESENTATIONS AND AGREEMENTS BETWEEN BUYER, MANUFACTURER AND SELLER, AND NO PERSON OR AGENT OF MANUFACTURER OR SELLER HAS ANY AUTHORITY TO MAKE ANY REPRESENTATION OR WARRANTY OR AGREEMENT RELATING IN ANY WAY TO THESE GOODS.

LIMITATION OF LIABILITY

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL MANUFACTURER OR SELLER BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, OR FOR DAMAGES IN THEIR NATURE OF PENALTIES RELATING TO THE GOODS SOLD, INCLUDING USE, APPLICATION, HANDLING, AND DISPOSAL. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, MANUFACTURER OR SELLER SHALL NOT BE LIABLE TO BUYER OR USER BY WAY OF INDEMNIFICATION TO BUYER OR TO CUSTOMERS OF BUYER, IF ANY, OR FOR ANY DAMAGES OR SUMS OF MONEY, CLAIMS OR DEMANDS WHATSOEVER, RESULTING FROM OR BY REASON OF, OR ARISING OUT OF THE MISUSE, OR FAILURE TO FOLLOW LABEL WARNINGS OR INSTRUCTIONS FOR USE, OF THE GOODS SOLD BY MANUFACTURER OR SELLER TO BUYER. ALL SUCH RISKS SHALL BE ASSUMED BY THE BUYER, USER, OR ITS CUSTOMERS. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BUYER'S OR USER'S EXCLUSIVE REMEDY, AND MANUFACTURER'S OR SELLER'S TOTAL LIABILITY SHALL BE FOR DAMAGES NOT EXCEEDING THE COST OF THE PRODUCT.

If you do not agree with or do not accept any of directions for use, the warranty disclaimers, or limitations on liability, do not use the product, and return it unopened to the Seller, and the purchase price will be refunded.

(RV060110)

Nufarm Imazuron Herbicide is not manufactured or distributed by BASF, seller of Sahara®.

Arsenal®, Banvel®, Pendulum®, Plateau® and Sahara® are trademarks of BASF Corporation.
Finale® is a trademark of Bayer.

Garlon® is a trademark of Dow AgroSciences Company.

Karmex® and Oust® are trademarks of E.I Du Pont de Nemours and Company.

Roundup® is a trademark of Monsanto Company.

Vanquish® is a trademark of a Syngenta Group Company.

Item 8H

Specimen Label

ELEMENT™ 4

For the control of woody plants and annual and perennial broadleaf weeds in non-crop industrial manufacturing and storage sites, rights-of-way such as electrical power lines, communication lines, pipelines, roadsides, railroads, forests and in the establishment and maintenance of wildlife openings. Use on these sites may include application to grazed areas.

Active Ingredient:

triclopyr: 3,5,6-trichloro-2- pyridinyloxyacetic acid, butoxyethyl ester	61.6%
Other Ingredients	38.4%
Total.....	100.0%

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 a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

Precautionary Statements

Hazards to Humans and Domestic Animals

Causes Moderate Eye Irritation • Harmful If Swallowed • Prolonged Or Frequently Repeated Skin Contact May Cause Allergic Reactions In Some Individuals

Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

Personal Protective Equipment (PPE)

Applicators and other handlers who handle this pesticide must wear:

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

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables 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.

User Safety Recommendations

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.

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 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 doctor. Do not 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 water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

Physical or Chemical Hazards

Combustible. 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. 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 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 other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 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, soil, or water, is:

- Coveralls
- Chemical-resistant gloves
- Shoes plus socks
- Protective eyewear

Non-Agricultural Use Requirements

The requirements in this box apply to 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 prohibited.

Pesticide Storage: Store above 28°F or agitate before use.

Pesticide Disposal: Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Storage and Disposal (Cont.)

Nonrefillable containers 5 gallons or less:

Container Reuse: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available.

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

Refillable containers 5 gallons or larger:

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

Nonrefillable containers 5 gallons or larger:

Container Reuse: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available.

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

General Information

Use Element™ 4 specialty herbicide for the control of woody plants and annual and perennial broadleaf weeds in non-crop industrial manufacturing and storage sites, rights-of-way such as electrical power lines, communication lines, pipelines, roadsides, railroads, forests and in the establishment and maintenance of wildlife openings. Use on these sites may include application to grazed areas.

Element 4 is an oil soluble, emulsifiable liquid product containing the herbicide triclopyr. Element 4 may be applied to woody or herbaceous broadleaf plants as a foliar spray or as a basal bark or cut stump application to woody plants. As a foliar spray, Element 4 controls only herbaceous plants that have emerged from the soil or woody plants that are in full leaf at the time of application. Small amounts of Element 4 can kill or injure many broadleaf plants. To prevent damage to crops and other desirable plants, follow all directions and precautions.

General Use Precautions and Restrictions

In Arizona: The state of Arizona has not approved Element 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, 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.

Apply no more than 1/2 gallon of Element 4 (2 lb ae of triclopyr) per acre per growing season on rights-of-way or any area where grazing or harvesting is allowed.

On forestry sites, Element 4 may be used at rates up to 6 quarts (6 lb ae of triclopyr) per acre per year.

Element 4 may be used at rates up to 8 quarts (8 lb ae of triclopyr) per acre per year on non-crop 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. Portions of grazed areas that intersect treated non-cropland, rights-of-way and forestry sites may be treated at up to 8 lb ae per acre if the area to be treated on the day of application comprises no more than 10% of the total grazable area.

Do not apply Element 4 directly to, or otherwise permit it to come into direct contact with, cotton, grapes, peanuts, soybeans, tobacco, vegetable crops, flowers, citrus, or other desirable broadleaf plants. Do not permit spray mists containing Element 4 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 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 to transport irrigation water. Do not apply where runoff or irrigation water may flow onto agricultural land as injury to crops may result.

Do 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 to Christmas trees may result in conifer injury. When treating unwanted vegetation in Christmas tree plantations, care should be taken to direct sprays away from conifers.

Element 4 is formulated as a low volatile ester. However, the combination of spray contact with impervious surfaces, such as roads and rocks, and increasing ambient air temperatures, may result in an increase in the volatility potential for this herbicide, increasing a risk for off-target injury to sensitive crops such as grapes and tomatoes.

Grazing and Haying Restrictions

Except for lactating dairy animals, there are no grazing restrictions 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.
- Portions of grazed areas that intersect treated non-cropland, rights-of-way and forestry sites may be treated at up to 8 lb ae per acre if the area to be treated on the day of application comprises no more than 10% of the total grazable area.

Slaughter Restrictions: During the season of application, withdraw livestock from grazing treated grass at least 3 days before slaughter.

Avoiding Injurious Spray Drift

Make applications only when there is little or no hazard from spray drift. Small quantities of spray, which may not be visible, may seriously injure susceptible plants. Do not spray when wind is blowing toward susceptible crops or ornamental plants that 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). If the smoke layers or indicates a potential of hazardous spray drift, do not spray.

Aerial Application: Element 4 may be aerially applied by fixed wing aircraft or helicopter. For aerial application on rights-of-way or other areas near susceptible crops, apply through a Microfoil[†] 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 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 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.

[†] Reference within this label to 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 is 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 such equipment does not imply that the reader should use the equipment other than as 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 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 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 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 information covered in the following Aerial Drift Reduction Advisory. [This information is advisory in nature and does not supersede mandatory label requirements.]

Aerial Drift Reduction Advisory

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

Controlling Droplet Size:

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

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

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

Wind: Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 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: Applications should not occur during a local, low level temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of the smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

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, Element 4 should be used in thickened (high viscosity) spray mixtures using an agriculturally labeled drift control additive, high viscosity invert system, or equivalent as directed by the manufacturer. When using a spray thickening or inverting additive, follow all use directions and precautions on the product label. With ground equipment, spray drift can be reduced 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. 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. Select nozzles and pressures which provide adequate plant coverage, but minimize the production of fine 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.

Mixing Directions

Element 4 may be foliarly applied by diluting with water or by preparing an oil-water emulsion. For woody plant control, an oil-water emulsion performs more dependably under a broader range of conditions than a straight water dilution and is recommended for aerial applications.

Oil-Water Mixture Sprays

Prepare a premix of oil, surfactant and Element 4 in a separate container using diesel fuel, fuel oil, or kerosene plus an emulsifier such as Sponto 712 or Triton X-100. Use a jar test to check spray mix compatibility before preparing oil-water emulsion sprays in the mixing tank. Do not allow any water or mixtures containing water to get into the premix or Element 4 since a thick "invert" (water in oil) emulsion may form that will be difficult to break. Such an emulsion may also be formed if the premix or Element 4 is put into the mixing tank before the addition of 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 water. Continue moderate agitation.

Ground Application: Add oil to the spray mix at a rate of 5 to 10% of the total mix, up to a maximum of 1 gallon of oil per acre, using agricultural spray emulsifiers according to mixing instructions below.

Aerial Application: Use oil and water in the spray mixture in a 1:5 ratio (1 part oil to 5 parts water), up to a maximum of 1 gallon of oil per acre according to mixing instructions below.

Oil Mixture Sprays for Basal Treatment

Prepare oil-based spray mixtures using either diesel fuel, No. 1 or No. 2 fuel oil, kerosene or a commercially available basal oil. 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 precautions on the manufacturer's product label. Add Element 4 to the required amount of oil in the spray tank or mixing tank and mix thoroughly. If the mixture stands over 4 hours, reagitation is required.

Oil Mixtures of Element 4 and Tordon K: Tordon K and Element 4 may be used in tank mix combination for basal bark treatment of woody plants. These herbicides are incompatible and will not form a stable 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 ratio. (See product bulletin for mixing instructions.) Tordon K is not registered for use in the states of California and Florida.

Water Dilutions

For water dilutions, an agricultural surfactant at the manufacturer's recommended rate may be added to the spray mixture to provide improved wetting of foliage. To help minimize spray drift, a drift control and deposition aid cleared for application to growing crops is recommended.

Tank Mixing

Element 4 may be applied in tank mix combination with labeled rates of other herbicides provided (1) the tank mix product is labeled for the timing and method of application for the use site to be treated; and (2) tank mixing is not prohibited by the label of the tank mix product. When tank mixing Element 4 with other materials, a compatibility test (jar test) using relative proportions of the tank mix ingredients should be conducted prior to mixing ingredients in the spray tank. 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 times and observe 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.

Mixing Order for Tank Mixes: Add one-half of the needed water to the mixing tank and start agitation. Add different materials in the order indicated below, allowing time for complete dispersion and mixing after addition of each product.

1. Water soluble herbicide (if used)
2. Premix of oil, emulsifier, Element 4 and other oil-soluble herbicide (if used); see below

Add the remaining water. During the final filling of the tank, add a drift control and deposition aid cleared for application to growing crops (if used), plus an agricultural surfactant (if a water dilution rather than an oil-water emulsion spray is used). Maintain continuous agitation of the spray mixture during mixing, final filling and throughout application to ensure spray uniformity.

Premixing: Prepare a premix of oil, emulsifier (if oil-water emulsion), and Element 4 plus other oil-soluble herbicide (if used), e.g., 2,4-D ester. **Note:** Do not allow water or mixtures containing water to get into the premix or Element 4 since a thick "invert" (water in oil) emulsion may form that will be difficult to break. Such an emulsion may also be formed if the premix or Element 4 is put into the mixing tank before the addition of water.

Tank Mixing Precautions:

- Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels.
- Do not exceed recommended application rates. If products containing the same active ingredient are tank 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.

Mixing with Liquid Fertilizer for Broadleaf Weed Control

Element 4 may be tank mixed with liquid nitrogen fertilizer and foliarly applied for weed control and fertilization of grass pastures. Use Element 4 in accordance with recommendations for grass pastures as given on this label. Apply at rates recommended by supplier or Extension Service Specialist. **Note:** Element 4 is not recommended for use with liquid fertilizer on woody plants (brush). Foliage burn caused by liquid fertilizer may reduce herbicide effectiveness on woody plants. Test for mixing compatibility using desired procedure and spray mix proportions in clear glass jar before mixing in spray tank. A compatibility aid such as Unite or Compex may be needed in some situations. **Compatibility is best with straight liquid nitrogen fertilizer solutions. Mixing with N-P-K solutions or suspensions may not be satisfactory even with the addition of compatibility aid.** Premixing Element 4 with 1 to 4 parts water may help in difficult situations.

Fill in the spray tank about half full with the liquid fertilizer, then add the herbicide with agitation and complete filling the tank with fertilizer. Apply immediately and continue agitation in the spray tank during application. **Do not store liquid fertilizer spray mixtures.** Application during very cold weather (near freezing) is not advisable. The likelihood of mixing or compatibility problems with liquid fertilizer increases under cold conditions.

Note: Do not use spray equipment for other applications to land planted, or to be planted, to susceptible crops or desirable plants **unless** it has been determined that all phytotoxic herbicide residue has been removed by thoroughly cleaning the equipment.

Plants Controlled by Element 4

Woody Plant Species

alder	choke cherry	locust	scotch broom
arrowwood	cottonwood	madrone	sumac
ash	crataegus (hawthorn)	maple (except bigleaf, vine ³)	sweetbay magnolia
aspen	dogwood	milkweed vine ³	sweetgum
bear clover (bearmat)	Douglas-fir	mulberry	sycamore
beech	elderberry	oaks	tanoak
birch	elm (except winged elm)	osage orange	thimbleberry
blackberry	gallberry	pepper vine ³	tree-of-heaven (<i>Ailanthus</i>) ¹
blackbrush	gorse	persimmon, eastern	trumpet creeper ²
blackgum	granjeno	pine	tulip poplar
boxelder ¹	guajillo	poison ivy	twisted acacia
Brazilian pepper	guava ³	poison oak	Virginia creeper ³
buckthorn	hazel	poplar	wax myrtle (top growth)
cascara	hickory	salmonberry	wild rose
ceanothus	hornbeam	saltbush (<i>Braccharis</i> spp.) ³	willow
cherry ³	huisache (suppression)	salt cedar ¹	willow primrose
chinquapin	kudzu ²	sassafras	winged elm

¹For best control, use either a basal bark or cut stump treatment.

²For complete control, re-treatment may be necessary.

³Basal or dormant stem applications only.

Annual, Biennial and Perennial Broadleaf Weeds

Note: Numbers in parentheses refer to footnotes below table.

black medic	curly dock	matchweed	sulfur cinquefoil (2)
bull thistle	dandelion (top growth)	mustard	sweet clover
burdock	dogfennel	Oxalis	tropical soda apple (3)
Canada thistle	field bindweed	plantain	vetch
chicory	goldenrod	purple loosestrife	wild carrot (Queen Anne's lace)
cinquefoil	ground ivy	ragweed	wild lettuce
clover	lambsquarters	sericea lespedeza (1)	wild violet
creeping beggarweed	lespedeza	smartweed	yarrow

1. **Sericea lespedeza:** Apply 1 to 2 pints of Element 4 per acre. For best results, apply after maximum foliage development in the late spring to early summer, but prior to bloom.
2. **Sulfur cinquefoil:** Apply 1 to 2 pints of Element 4 per acre. For best results, apply to plants in the rosette stage.
3. **Tropical soda apple:** Apply 2 pints of Element 4 per acre when tropical soda apple plants reach the first flower stage. For best results, apply in a total spray volume of 40 gallons per acre using ground equipment. An agricultural surfactant may be added at the manufacturer's recommended rate to provide more complete wetting and coverage of the foliage. Spot treatments may be used to control sparse plant stands. For spot treatment use a 1 to 1.5% solution of Element 4 in water (1 to 1 1/2 gallons of Element 4 in 100 gallons total spray mixture) and spray the entire plant to completely wet the foliage. In Florida, control of tropical soda apple may be improved by using the following management practices:

- Mow plants to a height of 3 inches every 50 to 60 days or whenever they reach flowering. Continue the mowing operation through April.
- In late May to June (50 to 60 days after the April mowing), apply Element 4 as a broadcast treatment.
- Use spot treatment to control any remaining plants or thin stands of plants that germinate following a broadcast treatment.

Application Methods

Use Element 4 at rates of 1 to 8 quarts per acre to control broadleaf weeds and woody plants. It is suggested that rates higher in this rate range be used to control woody plants. In all cases, use the amount specified in enough water 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 (if used), surfactant (if used), additional herbicide (if used), and Element 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 tank mixtures, read the directions and all precautions on both labels.

For best results apply when woody plants and weeds are actively 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 Element 4 alone or in combination with Tordon® 101 Mixture specialty herbicide or Tordon 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 Element 4 in combination with 2,4-D low volatile ester herbicide, generally the higher rates of Element 4 should be used for satisfactory 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 sites 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

Use sufficient spray volume to completely and uniformly cover foliage. For ground application, apply 10 gallons or more of total spray volume per acre. Use higher spray volumes for ground applications to ensure adequate coverage with increased depth and density of foliage, particularly for treatment of woody plants.

High Volume Foliage Treatment

For control of woody plants, use Element 4 at the rate of 2 to 6 quarts per 100 gallons of spray mixture, or Element 4 at 2 to 4 quarts may be tank mixed with labeled rates of 2,4-D low volatile ester herbicide, Tordon 101 Mixture, or Tordon K and diluted to make 100 gallons of spray. Do not apply more than 2 gallons of Element 4 per acre. On rangeland and permanent pasture sites, make 1 application per year and apply no more than 2 quarts of Element 4 (2 lb ae of triclopyr) per acre. Apply at a volume of 100 to 400 gallons of total spray per acre depending upon size and density of woody plants. Tordon 101 Mixture and Tordon 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.

Depending upon the size and density of the woody plants, apply sufficient spray volume to thoroughly wet all leaves, stems, and root collars. To minimize spray drift, select the minimum spray pressure that provides adequate plant coverage without forming a mist and direct sprays no higher than the top of the target plants. Use a drift control additive cleared for application to growing crops to reduce spray drift. Before using any tank mixture, read the directions and use precautions on both labels. For best results, apply when woody plants and weeds are actively growing.

Table 1: The following table is provided as a guide to the user to achieve the proper rate of Element 4.

Total Spray Volume (gallons/acre)	Rate of Element 4	
	Forestry Sites (qt/100 gallons of spray) ¹	Non-Cropland Sites (qt/100 gallons of spray) ²
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

¹ Do not exceed the maximum use rate of 6 qt of Element 4 (6 lb ae of triclopyr) per acre per year.

² Do not exceed the maximum use rate of 8 qt of Element 4 (8 lb ae of triclopyr) per acre per year for non-grazable areas, or 2 qt (2 lb ae of triclopyr) per acre per year for grazed areas, except on portions of grazed areas that meet the following requirement. Portions of grazed areas that intersect treated non-cropland, rights-of-way and forestry sites may be treated at up to 8 lb ae per acre if the area to be treated on the day of application comprises no more than 10% of the total grazable area.

Table 2

Application Rates per 100 Gallons of Spray		
Element 4	Plus Tank Mix Product	Rate (qt)
1 - 4 qt	--	--
1 - 2 qt	Grazon® P+D specialty herbicide	4
1 - 2 pt	2,4-D low volatile ester herbicide	1 - 2
1 - 2 qt	Tordon 22K	1 - 2
2 qt	Reclaim® specialty herbicide ^{1,2}	2

¹ Reclaim is registered for use only in Arizona, Texas, Oklahoma and New Mexico.

² See directions for Mesquite Control Using High Volume Foliage Treatment below.

Mesquite Control Using High Volume Foliage Treatment: For control of mesquite infestations of low to moderate density, apply Element 4 and Reclaim in a tank mixture to individual plants with backpack or hand-held sprayers or a vehicle-mounted sprayer with hand-held spray wand or spray gun. For individual plant treatment, use 2 quarts of Element 4 in combination with 2 quarts of Reclaim per 100 gallons of total spray solution (1/2% v/v of each product). Apply in water or as an oil-water emulsion as described in Mixing Directions. If using an oil-water emulsion, add the oil at a rate of 5% of the total spray volume. Apply as a complete spray-to-wet foliar application, including all leaves. Thorough coverage is necessary for good results, but do not spray to the point of runoff. Do not apply when mesquite foliage is wet. The total amount of Element 4 applied should not exceed 1 1/3 pints per acre. For best results, follow information given elsewhere in this label concerning effect of environmental conditions and application timing on control. This application method works best for brush less than 8 feet tall since efficient treatment and thorough coverage of taller brush is difficult to achieve with this method. To minimize drift, select a spray nozzle and pressure that provides good coverage while forming a coarse spray. Additionally, drift may be reduced by using the minimum pressure necessary to obtain plant coverage without forming a mist and by directing sprays no higher than the top of target plants. If desired, a spray dye may be added to the spray mixture to mark the treated plants.

Low Volume Foliage Treatment

To control susceptible woody plants, mix up to 20 quarts of Element 4 in 10 to 100 gallons of finished spray. The spray concentration of Element 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 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 foliage spray, up to 12 quarts of Element 4 may be applied in tank mix combination with labeled rates of Tordon K or 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 Aerial or Ground Equipment

Environmental conditions and application timing influence brush and weed control results. For best results, apply when woody plants and weeds are actively growing. For woody species, apply after the rapid growth period of early spring when leaf tissue is fully expanded and terminal growth has slowed. Brush regrowth should be at least 4 ft high prior to treatment to insure adequate foliage for herbicide absorption. Adequate soil moisture before and after treatment as well as the presence of healthy foliage at the time of application are important factors contributing to optimal herbicidal activity.

Use sufficient spray volume to completely and uniformly cover foliage. For ground application, apply 10 gallons or more of total spray volume per acre. For aerial application, apply at least 2 gallons of total spray volume per acre. Use higher spray volumes for ground or aerial applications to ensure adequate coverage with increased depth and density of foliage, particularly for treatment of woody plants.

Mesquite: The herbicidal response of mesquite is strongly influenced by foliage condition, growth stage and environmental conditions. For best results, apply when new growth foliage has turned from light to dark green, when the soil temperature is above 75°F at a depth of 12 to 18 inches, and soil moisture is adequate for plant growth. Apply within 60 days after the 75°F minimum soil temperature at the 12- to 18-inch depth has been reached. 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. Do not treat if mesquite exhibits new (light green) terminal growth in response to recent heavy rainfall during the growing season. Rate of soil warm-up at the 12- to 18-inch depth may vary with soil texture and drainage. Coarse-textured (sandy) soils warm up sooner than fine-textured (clay) soils and dry soils warm up more quickly than wet soils. Mesquite regrowth should be at least 4 ft high prior to treatment to insure adequate foliage for herbicide absorption.

Mesquite Only

Apply 1/2 to 1 pint of Element 4 per acre in combination with 2/3 to 1 1/3 pint per acre of Reclaim. See label for Reclaim for additional treatment recommendations and information on mesquite control. Apply aerially as an oil:water emulsion in 4 gallons or more total volume per acre or with ground equipment in 10 gallons or more total volume per acre. Use a maximum of 1 gallon of oil per acre for aerial or ground application.

Mesquite and Pricklypear Cactus

If pricklypear cactus is a target species in association with mesquite, apply a tank mix of 1/2 to 1 pint of Element 4 with 1 to 2 pints of Tordon 22K per acre. (The 2 pint per acre rate of Tordon 22K provides a higher and more uniform plant kill of pricklypear.) Tordon 22K may also be applied in combination with Reclaim to control pricklypear while providing improved control of mesquite. See labels for Tordon 22K and Reclaim for additional information and treatment recommendations. Apply aerially as an oil:water emulsion in 4 gallons or more total volume per acre or with ground equipment in 10 or gallons or more total volume per acre. If mesquite canopy is dense, use higher spray volumes. Use a maximum of 1 gallon of oil per acre for aerial or ground application.

South Texas Mixed Brush (Mesquite, Pricklypear Cactus, Blackbrush, Twisted Acacia and Granjeno)

Use 1 to 2 pints of Element 4 in a tank mix with 2 pints of Tordon 22K per acre if pricklypear is a problem, or with 2/3 to 1 1/3 pints of Reclaim per acre if mesquite is the prevalent species. Element 4 contributes to the control of non-legume species such as granjeno and oaks. However, if woody legume species are predominate, apply 2 pints of Tordon 22K per acre in combination with 2/3 to 1 1/3 pints of Reclaim per acre for improved control. See labels for Tordon 22K and Reclaim for additional information and treatment recommendations. Apply aerially in an oil:water emulsion in 4 gallons or more total volume per acre or with ground equipment in 15 gallons or more total volume per acre. Use a maximum of 1 gallon of oil per acre for aerial or ground application. The use of an oil:water emulsion is critical and good spray coverage is essential for acceptable brush control.

Sand Shinnery Oak Suppression

In Texas, New Mexico and Oklahoma, apply Element 4 alone at a rate of 1/2 to 2 pints per acre for suppression of shinnery oak growing on sandy soils. Grass response following suppression may be impressive where rainfall is adequate. Grazing deferment following application together with proper grazing management is recommended to allow for the reestablishment of grass stands.

Post Oak and Blackjack Oak - Regrowth Stands

Apply in the late spring (May) to early summer (June-July) when oak leaves are fully developed (expanded). Use 2 quarts of Element 4 alone or in tank mix combination with 0.5 to 1 pints of 2,4-D low-volatile ester herbicide per acre. Apply in an oil:water emulsion or water surfactant dilution in sufficient total volume per acre to assure thorough coverage, usually 5 gallons or more per acre by fixed-wing aircraft or helicopter or 15 to 25 gallons per acre by ground equipment. Use a maximum of 1 gallon of oil per acre for aerial or ground application. Lower rates may be used for suppression only. Control will require at least 3 consecutive treatments. **Note:** Regrowth plants have a large root mass relative to top growth when compared to undisturbed plants. In order for top growth to intercept and translocate enough herbicide to control the roots, delay broadcast treatment until top growth is at least 4 ft tall.

High Volume Foliage Treatment: For regrowth less than 4 ft tall, apply 2 quarts of Element 4 per 100 gallons of water and 2 quarts of ag surfactant alone or in tank mix combination with 1 gallon of Grazon P+D or 1 quart of Tordon 22K. Apply as a high volume leaf-stem treatment to individual plants using ground equipment.

Post Oak and Blackjack Oak - Mature Stands

For control of mature stands (greater than 5 ft tall), apply 2 quarts of Element 4 per acre in late spring (May) to early summer (June-July) when oak leaves are fully developed (expanded). Understory species such as winged elm, buckbrush, tree huckleberry and ash occurring in some areas will not be controlled (only suppressed or defoliated) by using Element 4 alone. Where these understory species occur, control may be improved by tank mixing 2 quarts of Element 4 with 1 quart of Tordon 22K or 4 quarts of Grazon P+D per acre. For best results, apply as an oil:water emulsion in a total volume of 5 gallons per acre or more by fixed-wing aircraft or helicopter.

Other Susceptible Woody Plants

Apply 2 to 4 pints of Element 4 alone or in combination with 2 to 3 quarts of 3.8 lb/gal 2,4-D low volatile ester or amine formulation per acre. If difficult to control species such as ash, choke cherry, elm, maple or oaks are prevalent, and during applications made when plants are mature late in the summer or during drought conditions, use the higher rates of Element 4, alone or with 2,4-D. Element 4 may also be applied in a tank mixture with Grazon P+D or Tordon 22K for increased control of certain species. See labels for Grazon P+D and Tordon 22K for additional information and treatment recommendations. Apply aerially in 4 gallons or more total volume per acre or with ground equipment in 10 gallons or more total volume per acre. For best results on blackberry, apply during or after bloom. For management of kudzu, apply 1 quart of Element 4 per acre. Repeat application may be necessary to achieve desired level of control.

Susceptible Broadleaf Weeds

Use 2 pints of Element 4 per acre in a water spray. Apply as a broadcast spray in a total volume of 10 gallons or more per acre by ground equipment or aerially in a total volume of 2 gallons or more per acre. Apply anytime the weeds are actively growing. Element 4 at 1/2 to 3 pints may be tank mixed with 1 to 2 quarts of 3.8 lb/gal 2,4-D amine or low volatile ester.

Woody Plant Control

Foliage Treatment: Use 4 to 8 quarts of Element 4 in enough water to make 5 gallons or more per acre of total spray, or 1 1/2 to 3 quarts of Element 4 may be combined with labeled rates of 2,4-D low volatile ester, Tordon 101 Mixture, or Tordon K in sufficient water to make 5 gallons or more per acre of total spray. Tordon 101 Mixture and Tordon K are not registered for use in the states of California and Florida.

Broadleaf Weed Control

Use Element 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. Element 4 at 0.25 to 3 quarts may be tank mixed with labeled rates of 2,4-D amine or low volatile ester, Tordon K, or Tordon 101 Mixture to improve the spectrum of activity. For thickened (high viscosity) spray mixtures, Element 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 for use in the states of California and Florida.

Foliage Treatment (Utility and Pipeline Rights-of-Way)

Use 4 to 8 quarts of Element 4 alone, or 3 to 4 quarts of Element 4 in a tank mix combination with labeled rates of 2,4-D 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 Mixture and Tordon K are not registered for use in the states of California and Florida.

Portions of grazed areas that intersect treated non-cropland, rights-of-way and forestry sites may be treated at up to 8 lb ae per acre if the area to be treated on the day of application comprises no more than 10% of the total grazable area.

Basal Bark, Dormant Stem and Cut Surface Treatments

Individual plant treatments such as basal bark and cut surface applications may be used on any use site listed on this label at a maximum use rate of 8 lb ae of triclopyr per acre. These types of applications are made directly to ungrazed parts of plants and, therefore, are not restricted by the grazing maximum rate of 2 lb ae of triclopyr per acre.

Basal Bark Treatment

To control susceptible woody plants with stems less than 6 inches in basal diameter, mix 1 to 5 gallons of Element 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 tree trunks to a height of 12 to 15 inches from the ground, thoroughly wetting the indicated area. Spray until runoff at the ground line is noticeable. Old or rough bark requires more spray than smooth young bark. Apply anytime, including the winter months, except when snow or water prevent spraying to the ground line. **Mixing with oil requires vigorous agitation to form an oil solution.** Once a solution is formed it will stay stable.

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 Element 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 to a height of 12 to 15 inches from the ground in a manner that thoroughly wets the lower stems, including the root collar area, but not to the point of runoff. Herbicide concentration should vary with size and susceptibility of species treated. Apply anytime, including the winter months, except when snow or water prevent spraying to the ground line or when stem surfaces are saturated with water. See Table 1 for relationship between mixing rate, spray volume and maximum application rate. **Note:** The addition of a soil active herbicide to a basal bark mixture with Element 4 may result in damage to surrounding non-target vegetation. Care should be taken to assess the areas in which these soil active herbicides are used in combination with Element 4 in basal bark applications. **Mixing with oil requires vigorous agitation to form an oil solution.** Once a solution is formed it will stay stable.

Element 4 Plus Tordon K in Oil Tank Mix: Element 4 and Tordon K may be used in tank mix combination as a low volume basal bark treatment to improve control of certain woody species such as ash, elm, maple, poplar, aspen, hackberry, oak, oceanspray, birch, hickory, pine, tanoak, cherry, locust, sassafras, and multiflora rose. (See product bulletin for mixing instructions.) Tordon K is not registered for use in the states of 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 Element 4 in enough oil to make 100 gallons of spray mixture. Streamline basal bark treatments are most effective on stems less than 4 inches in basal diameter. Apply with a backpack or knapsack sprayer using equipment that provides a directed straight stream spray. Apply the spray in a 2- to 3-inch wide band to one side of stems less than 3 inches in basal diameter. When the optimum amount of spray mixture is applied, the treated 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 of the species being treated. Better control is achieved when spray is applied to thin juvenile bark and above rough thickened mature bark. This technique is not recommended for scrub and live oak species, including blackjack, turkey, post, live, bluejack and laurel oaks, or bigleaf maple.

Apply anytime, including winter months, except when snow or water prevents spraying at the desired height above ground level. **Note:** Best results with some hardwood species occur when applications are made from approximately 6 weeks prior to leaf expansion in the spring until approximately 2 months after leaf expansion is completed. **Mixing with oil requires vigorous agitation to form an oil solution.** Once a solution is formed it will stay stable.

Low Volume Stem Bark Band Treatment (North Central and Lake States)

To control susceptible woody plants with stems less than 6 inches in basal diameter, mix 20 to 30 gallons of Element 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. Apply the spray in a 6- to 10-inch wide band that completely encircles the stem. Spray in a manner that completely wets the bark, but not to the point of runoff. The treatment band may be positioned at any height up to the first major branch. For best results, apply the band as low as possible. Spray mixture concentration should vary with size and susceptibility of species to be treated. Applications may be made anytime, including winter months. **Mixing with oil requires vigorous agitation to form an oil solution.** Once a solution is formed it will stay stable.

Thinline Basal Bark Treatment

To control susceptible woody plants with stems less than 6 inches in diameter, apply Element 4, either 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 Element 4 around each stem or clump. Use a minimum of 2 to 15 milliliters of Element 4 or oil mixture with Element 4 to treat single stems and from 25 to 100 milliliters to treat clumps of stems. Use an applicator metered or calibrated to deliver the small amounts required. **Mixing with oil requires vigorous agitation to form an oil solution.** Once a solution is formed it will stay stable.

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 resprouting may occur. This treatment method is best suited for sites with dense, small diameter brush. Dormant stem treatments of Element 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 Element 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 solution. Use continuous adequate agitation. Apply with knapsack or power spraying equipment, using low pressure (20 to 40 psi). In western states, apply anytime after woody plants are dormant and most of the foliage has dropped. In other areas apply anytime within 10 weeks of budbreak, generally February through April. Thoroughly wet the upper parts of the stems and use the remainder to wet the lower 12 to 15 inches above the ground to the point of runoff. For root suckering species such as sumac, sassafras and locust, also spray the ground under the plant to cover small root suckers which may not be visible above the soil surface. For oil-water mixture application, mix 6 quarts of Element 4, 25 gallons of oil and 1.5 gallons of an approved agricultural spray emulsifier such as Sponto 712 or Triton X-100 as indicated in the mixing directions. Treat as above. Element 4 may be mixed with 4 quarts of Weedone 170 herbicide to improve the control of black cherry and broaden the spectrum of herbicidal activity. Do not apply to wet or saturated bark as poor control may result.

Cut Stump Treatment

To control resprouting, mix 20 to 30 gallons of Element 4 in enough oil to make 100 gallons of spray mixture. Apply with a backpack or knapsack sprayer using low pressures and a solid cone or flat fan nozzle. Spray the root collar area, sides of the 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. **Mixing with oil requires vigorous agitation to form an oil solution.** Once a solution is formed it will stay stable.

Cut Stump Treatment in Western States

To control resprouting of salt cedar and other *Tamarix* species, bigleaf maple, tanoak, Oregon myrtle, and other susceptible species, apply undiluted Element 4 to wet the cambium and adjacent wood around the entire circumference 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. Cut stumps so that they are approximately level to facilitate uniform coverage of Element 4. Use an applicator which can be calibrated to deliver the small amounts of material required.

Growing Point and Leaf Base (Crown) Treatment of Yucca

Prepare a 2% v/v solution of Element 4 in diesel or fuel oil (13 fl oz of Element 4 in 5 gallons of spray mixture). Thoroughly wet the center of the plant including growing point and leaf bases to the soil surface. Complete coverage of leaves is not necessary.

Forest Management Applications

For broadcast applications, apply 1 to 6 quarts of Element 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.

Plant Back Interval for Conifers: Conifers planted sooner than 1 month after treatment with Element 4 at less than 4 quarts per acre or sooner than 2 months after treatment at 4 to 6 quarts 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 waiting period before planting observed.

Forest Site Preparation (Not for Conifer Release)

Southern States including Alabama, Arkansas, Delaware, Florida, Georgia, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia: To control susceptible woody plants and broadleaf weeds, apply Element 4 at a rate of 4 to 6 quarts per acre. To broaden the spectrum of woody plants and broadleaf weeds controlled, apply 2 to 4 quarts of Element 4 per acre in tank mix combination with labeled rates of Tordon 101 Mixture or Tordon K. Tordon 101 Mixture and Tordon K are not registered for use in the state of Florida. Where grass control is also desired, Element 4, alone or in tank mix combination with Tordon K or Tordon 101 Mixture, may be applied with labeled rates of other herbicides registered for grass control in forests. Use of tank mix products must be in accordance with the most restrictive of label limitations and precautions. Do not exceed labeled application rates. Element 4 cannot be tank mixed with any product containing a label prohibition against such mixing.

Western, Northeastern, North Central, and Lake States (States not Listed Above as Southern States): To control susceptible woody plants and broadleaf weeds, apply Element 4 at a rate of 3 to 6 quarts per acre. To broaden the spectrum of woody plants and broadleaf weeds controlled, apply 1.5 to 3 quarts of Element 4 per acre in tank mix combination with labeled rates of Tordon 101 Mixture, Tordon K, or 2,4-D low volatile ester. Tordon 101 Mixture and Tordon K are not registered for use in the state of California. Where grass control is also desired, Element 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 directions and precautions on each product label.

Southern Coastal Flatwoods: To control susceptible broadleaf weeds and woody species such as gallberry and wax-myrtle, and for partial control of saw-palmetto, apply 2 to 4 quarts of Element 4 per acre. To broaden the spectrum of species controlled to include fetterbush, staggerbush, tili, and grasses, apply 2 to 3 quarts of Element 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 Element 4 per acre in tank mix combination with labeled rates of 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.

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, *Ceanothus* spp., blackberry, chinquapin, and poison oak, mix 4 to 20 quarts of Element 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 flat fan nozzles or equivalent anytime after the hardwoods and brush have reached full leaf size, but before autumn coloration. The majority of treated hardwoods and brush 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 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 kill pines.

Broadcast Applications for Mid-Rotation Understory Brush Control in Southern Coastal Flatwoods Pine Stands (Ground Equipment Only)

For control of susceptible species such as gallberry and wax-myrtle and broadleaf weeds, apply 2 to 4 quarts of Element 4 per acre. To broaden the spectrum of woody plants controlled to include fetterbush, staggerbush, and tili, apply 2 to 3 quarts of Element 4 per acre in tank mix combination with labeled rates of Arsenal Applicator's Concentrate.

Saw-palmetto will be partially controlled by use of Element 4 at 4 quarts per acre or by mixtures of Element 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 target 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 total volume. For best 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 Element 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 of diesel oil or a suitable surfactant or oil substitute at manufacturer's recommended rates. **Mixing with oil as the only diluent requires vigorous agitation to form an oil solution.** Once a solution is formed it will stay stable.

Conifer Plantations (Excluding Pines) After Hardwoods Begin Growth and Before Conifer Bud Break ("Early Follar" Hardwood Stage): Use Element 4 at 1 to 1.5 quarts alone or with 2,4-D low volatile ester herbicide in water carrier to provide no more than 3 lb ae per acre from both products. After conifer bud break, these sprays may cause more serious injury to the crop trees. Use of a surfactant may cause unacceptable injury to conifers especially after bud break.

Conifer Plantations (Excluding Pines) After Conifers Harden Off in Late Summer and While Hardwoods are Still Actively Growing: Use Element 4 at rates of 1 to 1.5 quarts per acre alone or with 2,4-D low volatile ester to provide no more than 3 lb ae per acre from both products. Treat as soon after conifer bud hardening as possible so that hardwoods and brush are actively growing. Use of oil, oil substitute, or surfactant may cause unacceptable injury to the conifers.

Broadcast Applications for Conifer Release in the Eastern 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, and grey), aspen, ash, pin cherry, and *Rubus* spp. and perennial and annual broadleaf weeds, use Element 4 at rates of 1.5 to 3 quarts per acre alone or with 2,4-D 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 autumn 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, willow, oak, hazel, and *Rubus* spp. and perennial and annual broadleaf weeds, use Element 4 at rates of 1.5 to 3 quarts per acre. Apply in late summer or early fall after conifers have formed their overwintering buds and hardwoods are in full leaf and prior to autumn coloration.

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 Limitation 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 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 all risks associated with 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 the label, such as unfavorable temperature, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. All such risks shall be assumed by buyer.

Limitation of Remedies

To the extent permitted by law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at 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 product used.

To the extent permitted by law, Dow AgroSciences 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. To the extent permitted by law, in no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

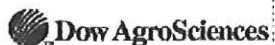
The terms of the Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow AgroSciences or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation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

Produced for Dow AgroSciences LLC • Indianapolis, IN 46268 USA

Label Code: D02-339-002
Replaces Label: D02-339-001
LOES Number: 010-02140

EPA accepted 04/18/07

Item 8



Material Safety Data Sheet

Dow AgroSciences LLC

Product Name: ELEMENT* 4 Herbicide

Issue Date: 03/09/2009
Print Date: 12 Mar 2009

Dow AgroSciences LLC encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. Product and Company Identification

Product Name
ELEMENT* 4 Herbicide

COMPANY IDENTIFICATION

Dow AgroSciences LLC
A Subsidiary of The Dow Chemical Company
9330 Zionsville Road
Indianapolis, IN 46268-1189
USA

Customer Information Number: 800-992-5994

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 800-992-5994
Local Emergency Contact: 800-992-5994

2. Hazards Identification

Emergency Overview

Color: Yellow

Physical State: Liquid.

Odor: Gasoline-like

Hazards of product:

WARNING! May cause skin irritation. May cause allergic skin reaction. May cause eye irritation.

OSHA Hazard Communication Standard

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

Potential Health Effects

Eye Contact: May cause eye irritation. Corneal injury is unlikely. May cause pain disproportionate to the level of irritation to eye tissues.

* Indicates a Trademark

* Indicates a Trademark of Dow AgroSciences LLC