

**Council Meeting: September 1, 2009****SUBJECT: Award of Bid No. F0812-39 for Oxidation Pond Vegetation Removal at the Water Pollution Control Plant and Approval of Budget Modification No. 4****REPORT IN BRIEF**

Approval is requested for the award of a contract in an amount not to exceed \$102,165 plus a contingency of \$15,325 to Aquatic Environments, Inc. of Concord to provide vegetation removal at the Water Pollution Control Plant (WPCP) oxidation ponds as required by the Public Works Environmental Services Division. Approval is also requested for Budget Modification No. 4 to provide additional funding for this project.

BACKGROUND

The WPCP uses oxidation ponds as part of the secondary process for wastewater treatment. The two ponds provide for removal of organic solids from the wastewater. The wastewater is pumped into the ponds to settle for 2-3 days and to allow for organic processes to continue. Cattails and other vegetation have grown in and around the banks of the ponds and into the open water, creating an impediment to the flow of wastewater through the ponds and creating a clogging hazard to the influent pump station in the ponds. The scope of work for this project consists of the cost effective removal of the vegetation in these ponds.

DISCUSSION

Bid specifications were prepared by Public Works and Purchasing staff. Bid specifications included mechanical removal of vegetation, with some hand work around the banks, simple de-watering of the vegetation removed to lower the water content, and hauling and disposal of the vegetation removed. Invitation for Bids No. F0812-39 was published in The Sun on February 4, 2009 and broadcast to potential suppliers through the DemandStar by Onvia public procurement network. Fourteen firms requested bid documents.

Sealed bids were received and publicly opened on March 11, 2009. Five responsive bids were received.

Bidder

<u>Bidder</u>	<u>Total Bid</u>
Aquatic Environments, Inc., of Concord	\$102,165
Go Native, Inc., of Montara	\$236,000
HSR, Inc., of Santa Clara	\$240,000
Wetland Construction, Inc., of Fairfield	\$373,500
ENV Environmental, of Richmond	\$904,458

The bid from Aquatic Environments, Inc. includes application of a herbicide in addition to the mechanical harvesting of the vegetation, resulting in faster removal times, and as a result, lower costs and a lower bid price. Bid award has been delayed by the review of the Material Safety Data Sheet (MSDS) documents and other environmental documentation related to herbicide application by the WPCP staff, the California Department of Fish and Game (CDFG) and the Regional Water Quality Board. The review indicates the bidder's application plan meets all local and state guidelines.

Staff recommends accepting the bid from Aquatic Environments, Inc. the lowest responsive and responsible bidder

FISCAL IMPACT

Project costs are as follows:

Mobilization/Demobilization	\$63,015
Vegetation removal: 20 loads @ \$415/Load	\$8,300
Herbicide application	\$9,200
California Dept of Fish and Game Permit Application	\$8,800
Bird and Wildlife Survey	\$9,000
Additional daily maintenance of Vegetation Control Booms (1wk)	\$3,850
Bid Total	\$102,165
Contingency (15% of bid total)	\$15,325
Total costs	\$117,490

The total initial project cost, including contingency, is approximately half a percent of the total revenue requirement of the Wastewater Management Fund and can be absorbed in the current year by reserves.

Staff recommends approval of Budget Modification No. 4 to appropriate \$117,490 from the Wastewater Management Fund Rate Stabilization Reserve to a new project to fund the removal of vegetation from the Water Pollution Control Plant oxidation ponds.

**Budget Modification No. 4
Fiscal Year 2009/2010**

	Current	Increase (Decrease)	Revised
Wastewater Management Fund Expenditures			
New Project – Oxidation Pond Vegetation Removal	\$0	\$117,490	\$117,490
Reserves	\$1,565,309	(\$117,490)	\$1,447,819

PUBLIC CONTACT

Public contact was made by posting the Council agenda on the City's official-notice bulletin board outside City Hall, at the Sunnyvale Senior Center, Community Center and Department of Public Safety; and by making the agenda and report available at the Sunnyvale Public Library, the Office of the City Clerk and on the City's Web site.

RECOMMENDATION

1. Award a contract, in substantially the same form as the attached draft and in an amount not to exceed \$102,165 to Aquatic Environmentals, Inc. for Oxidation Pond Vegetation Removal at the WPCP;
2. Approve a project contingency in the amount of \$15,325; and
3. Approve Budget Modification No. 4.

Reviewed by:

Mary J. Bradley, Director of Finance

Prepared by: Pete Gonda, Senior Management Analyst, Finance

Reviewed by:

Marvin Rose, Director of Public Works

Approved by:

Gary M. Luebbers
City Manager

Attachments

- A. Services Agreement

**Attachment A
DRAFT**

**SERVICES AGREEMENT BETWEEN THE CITY OF SUNNYVALE AND
AQUATIC ENVIRONMENTS, INC.
FOR OXIDATION POND VEGETATION REMOVAL AT THE WPCP**

THIS AGREEMENT, dated _____, is by and between the CITY OF SUNNYVALE, a municipal corporation ("CITY"), and AQUATIC ENVIRONMENTS, INC., a California corporation ("CONTRACTOR").

WHEREAS, CITY is in need of vegetation removal services in the Oxidation Ponds at the Water Pollution Control plant (WPCP); and,

WHEREAS, CONTRACTOR possesses the skill and expertise to provide the required services;

NOW, THEREFORE, THE PARTIES ENTER INTO THIS AGREEMENT.

1. Services by CONTRACTOR

CONTRACTOR shall provide services in accordance with Exhibit "A" attached and incorporated by reference. CONTRACTOR shall determine the method, details and means of performing the services.

2. Time for Performance

The term of this Agreement shall be from September 2, 2009 to June 30, 2010, unless otherwise terminated. CONTRACTOR shall deliver the agreed upon services to CITY as specified in Exhibit "A". Extensions of time may be granted by the City Manager upon a showing of good cause.

3. Duties of CITY

CITY shall supply any documents or information available to City required by CONTRACTOR for performance of its duties. Any materials provided shall be returned to CITY upon completion of the work.

4. Compensation

CITY agrees to pay CONTRACTOR at the rates shown in Exhibit "B". Total compensation shall not exceed One Hundred Two Thousand One Hundred Sixty Five Thousand and No/100 Dollars (\$102,165.00). CONTRACTOR shall submit invoices to CITY to be paid in accord with the procedures set forth in Exhibit "B" attached and incorporated by reference.

5. Ownership of Documents

CITY shall have full and complete access to CONTRACTOR's working papers, drawings and other documents during progress of the work. All documents of any description prepared by CONTRACTOR shall become the property of the CITY at the completion of the project and upon payment in full to the CONTRACTOR. CONTRACTOR may retain a copy of all materials produced pursuant to this Agreement.

6. Conflict of Interest

No officer or employee of CITY shall have any interest, direct or indirect, in this Agreement or in the proceeds thereof. During the term of this Agreement CONTRACTOR shall not accept employment or an obligation which is inconsistent or incompatible with CONTRACTOR's obligations under this Agreement.

7. Confidential Information

CONTRACTOR shall maintain in confidence and at no time use, except to the extent required to perform its obligations hereunder, any and all proprietary or confidential information of CITY of which CONTRACTOR may become aware in the performance of its services.

8. Compliance with Laws

- (a) CONTRACTOR shall not discriminate against, or engage in the harassment of, any City employee or volunteer or any employee of CONTRACTOR or applicant for employment because of an individual's race, religion, color, sex, gender identity, sexual orientation (including heterosexuality, homosexuality and bisexuality), ethnic or national origin, ancestry, citizenship status, uniformed service member status, marital status, family relationship, pregnancy, age, cancer or HIV/AIDS-related medical condition, genetic characteristics, and physical or mental disability (whether perceived or actual). This prohibition shall apply to all of CONTRACTOR's employment practices and to all of CONTRACTOR's activities as a provider of services to the City.
- (b) CONTRACTOR shall comply with all federal, state and city laws, statutes, ordinances, rules and regulations and the orders and decrees of any courts or administrative bodies or tribunals in any manner affecting the performance of the Agreement.

9. Independent Contractor

CONTRACTOR is acting as an independent contractor in furnishing the services or materials and performing the work required by this Agreement and is not an agent, servant or employee of CITY. Nothing in this Agreement shall be interpreted or construed as creating or establishing the relationship of employer and employee between CITY and CONTRACTOR. CONTRACTOR is responsible for paying all required state and federal taxes.

10. Indemnity

CONTRACTOR shall indemnify and hold harmless CITY and its officers, officials, employees and volunteers against any and all suits, claims, damages, liabilities, costs and expenses, including attorney fees, arising out of the performance of the work described herein, caused by or related to the negligence, recklessness, or willful misconduct of CONTRACTOR, its employees, subcontractors, or agents in the performance (or non-performance) of services under this Agreement.

11. Insurance

CONTRACTOR shall take out and maintain during the life of this Agreement policies of insurance as specified in Exhibit "C" attached and incorporated by reference, and shall provide all certificates or endorsements as specified in Exhibit "C."

12. CITY Representative

Dan Hammons, WPCP Maintenance and Facility Manager, as the City Manager's authorized representative, shall represent CITY in all matters pertaining to the services to be rendered under this Agreement. All requirements of CITY pertaining to the services and materials to be rendered under this Agreement shall be coordinated through the CITY representative.

13. CONTRACTOR Representative

Lance Dohman, Chief Operating Officer, shall represent CONTRACTOR in all matters pertaining to the services and materials to be rendered under this Agreement; all requirements of CONTRACTOR pertaining to the services or materials to be rendered under this Agreement shall be coordinated through the CONTRACTOR representative.

14. Notices

All notices required by this Agreement shall be in writing, and shall be personally delivered, sent by first class with postage prepaid, or by sent by commercial courier, addressed as follows:

To CITY: Dan Hammons, WPCP Maintenance Manager
Public Works/Environmental Services Division
CITY OF SUNNYVALE
P. O. Box 3707
Sunnyvale, CA 94088-3707

To CONTRACTOR: Lance Dohman, COO
Aquatic Environments, Inc.
4000 Industrial Way
Concord, CA 94520

Nothing in this provision shall be construed to prohibit communication by more expedient means, such as by telephone or facsimile transmission, to accomplish timely communication. However, to constitute effective notice, written confirmation of a telephone conversation or an original of a facsimile transmission must be sent by first class mail or commercial carrier, or hand delivered. Each party may change the address by written notice in accordance with this paragraph. Notices delivered personally shall be deemed communicated as of actual receipt; mailed notices shall be deemed communicated as of two days after mailing, unless such date is a date on which there is no mail service. In that event communication is deemed to occur on the next mail service day.

15. Assignment

Neither party shall assign or sublet any portion of this Agreement without the prior written consent of the other party.

16. Termination

If CONTRACTOR defaults in the performance of this Agreement, or materially breaches any of its provisions, CITY at its option may terminate this Agreement by giving written notice to CONTRACTOR. If CITY fails to pay CONTRACTOR, CONTRACTOR at its option may terminate this Agreement if the failure is not remedied by CITY within thirty (30) days from the date payment is due.

Without limitation to such rights or remedies as CITY shall otherwise have by law, CITY also shall have the right to terminate this Agreement for any reason upon ten (10) days' written notice to CONTRACTOR. In the event of such termination, CONTRACTOR shall be compensated in proportion to the percentage of services performed or materials furnished (in relation to the total which would have been performed or furnished) through the date of receipt of notification from CITY to terminate. CONTRACTOR shall present CITY with any work product completed at that point in time.

17. Entire Agreement; Amendment

This writing constitutes the entire agreement between the parties relating to the services to be performed or materials to be furnished hereunder. No modification of this Agreement shall be effective unless and until such modification is evidenced by writing signed by all parties.

18. Miscellaneous

Time shall be of the essence in this Agreement. Failure on the part of either party to enforce any provision of this Agreement shall not be construed as a waiver of the right to compel enforcement of such provision or any other provision. This Agreement shall be governed and construed in accordance with the laws of the State of California.

IN WITNESS WHEREOF, the parties have executed this Agreement.

ATTEST:

CITY OF SUNNYVALE ("CITY")

By _____
City Clerk

By _____
City Manager

APPROVED AS TO FORM:

AQUATIC ENVIRONMENTS, INC
(CONTRACTOR)

By _____
City Attorney

By _____

Name and Title

Name and Title

Exhibit A

Scope of Work

In an effort to facilitate a more effective removal of nuisance vegetation at the WPCP and to reduce cost to the CITY, CITY and CONTRACTOR ("PARTIES") have agreed to modify the original bid documents for Bid #F0812-39 "Removal of Vegetation at Sunnyvale Water Pollution Control Plant (WPCP) Biological Treatment Ponds." The following Base Scope of Work and Additional Scope of Work incorporates the PARTIES intent:

Base Scope of Work

CONTRACTOR will treat nuisance cattail and bulrush plants on the WPCP levees via application of a Glyphosate-based herbicide (AquaMaster by Monsanto Company), marking dye, and a drift control agent if required. Application of the herbicide shall conform to all applicable laws and practices including but not limited to the Lake/Streambed Alteration permit described in Item (b.) Additional Scope of Work, the City of Sunnyvale's IPM Policy, the Pest Control Recommendation, the AquaMaster label, and the AquaMaster MSDS. Herbicides will be applied from the levee banks and from within the oxidation ponds.

In approximately three weeks after the application, treated vegetation will be cut via utilization of terrestrial and aquatic based mowing equipment. Plant fragments will be collected in the waters with an aquatic weed harvester and via hand crews on the levees. Pumping operations will be protected for two weeks after mowing by placement of vegetation collection booms that will be tended as needed by AEI. Vegetation shall be removed and lawfully disposed of by CONTRACTOR. Payment for the Base Scope of Work is detailed in Exhibit B "Compensation."

Additional Scope of Work

The PARTIES agreed that additional work was needed to achieve the lawful and effective vegetation control goals for the project. The following are compensable to CONTRACTOR as additional work and shall be payable according to Additional Scope of Work detailed in Exhibit B "Compensation": (a.) Subsequent application of herbicide approximately one month after performance of the Base Scope of Work and in-place decomposition of remaining plants, (b.) Necessary permits, and notifications to neighboring property owners in order to facilitate the project and future year's control efforts, (c.) A bird and wildlife survey if required by California Department of Fish & Game (given our experience in on similar projects, a bird and wildlife survey is an unlikely requirement), and (d.) Other hourly work may be necessary to protect pump operations.



March 11, 2009

City of Sunnyvale
Purchasing Division
City Hall Annex
650 West Olive Avenue
P.O. Box 3707
Sunnyvale, CA 94088-3707

Re: City of Sunnyvale Letter Regarding Herbicide Applications in the WPCP biological treatment ponds.

Attention: David Gakle, Principal Buyer
Dan Hammons, WPCP Maintenance and Facility Manager

Thank you for your letter expressing support for our approach to vegetation control in the WPCP biological treatment ponds. Our program involves application of a Glyphosate-based herbicide (AquaMaster by Monsanto Company), mowing the plants once they are controlled, and collecting the cut materials.

In your letter, City of Sunnyvale staff requested information on a wide range of topics. I will attempt to respond to these questions and concerns in the body of this letter and via exhibits. Also of note is the potential permit situation with the California Department of Fish & Game (CDFG) which is addressed as item "4. Notes on Permits."

1. City of Sunnyvale Integrated Pest Management (IPM) Policy

- Our office and field staff have reviewed the City's IPM Policy and we affirm that all work will adhere to the Policy.
- Our Herbicide Applications Plan is incorporated in this letter and includes the Pest Control Recommendation, a table of licenses including our Pest Control Advisor, a Site Safety Review, the AquaMaster label, and the AquaMaster MSDS.

2. Monsanto AquaMaster

A wealth of information on AquaMaster and Glyphosate-based herbicides is provided on the Monsanto website. Links to the information that addresses many potential environmental and safety concerns are noted below. I have attached the Aquamaster Technical Fact Sheet which specifically addresses toxicity data for Sheepshead minnows, Mysid shrimp, and Green algae to this letter.

http://www.monsanto.com/products/techandsafety/herbicide_scipubs.asp

<http://www.monsanto.com/ito/layout/industrial/aquamaster.asp>

Additional information may be obtained through our local Monsanto field representative.

Mike Krebsbach, Account Manager
Monsanto Company
11905 Cenegal Rd
Atascadero, CA 93422
805-461-6709
Michael.L.Krebsbach@monsanto.com

Aquatic Construction • Habitat Restoration • Lake & Water Feature Maintenance
P.O. Box 1406 Alamo, CA 94507 • Phone (925) 521-0400 • Fax (925) 521-0403
Contractors License A754569 • www.aquamog.com

3. Pump Protection

Preventing plants and plant fragments from interfering with your pumping operations is a highest priority for our company. Our plan includes the use of aquatic vegetation harvesters to collect floating plant fragments after the mowing operation. In addition to collecting fragments during the mowing period, a vegetation containment boom will be placed in the vicinity of the pump station for two days after mowing. The vegetation collected by the boom will be then be removed by the harvester as shown in our attached proposal document.

4. Notes on Permits

Our environmental consultant was recently informed by Bill Johnston of the California Department of Fish & Game (CDFG) in San Jose that a Streambed Alteration Permit (Section 1600) will be required for any bulrush spraying, mowing, and/or removal at the WPCP facility. This permit is required whether the vegetation is removed via the original excavation plan and/or the herbicide and mowing removal method that we have proposed. I was also informed by our environmental consultant that excavation of the vegetation roots into levees may require further review by the U.S. Army Corps of Engineers and others. Consequently, there is significantly less regulatory attention directed toward herbicide applications than there would be to the alternate approach which involves levee excavation. The window of work for the Streambed Alteration Permit is between September 1 and January 31. To perform the work outside this window requires that a bird nesting survey be performed by a qualified biologist and the survey results must accompany the permit application. If nesting birds are found, we would need to maintain a 100 foot buffer around active nests. This buffer increases to 250 feet in the event that raptors are found.

Other facts about the Streambed Alteration Permit to remember is that CDFG has 60 days to deem the permit application to be complete and to respond. Except in the larger and more high profile cases, the typical response (assuming the application is deemed complete) is to send a letter after 60 days which states they haven't the time to complete and issue the permit within the time frame. The applicant is then given default permission to proceed with their project providing they adhere to the time frame and procedure described in the application. Such a letter would not be issued if CDFG felt that the proposed the work would be performed in a manner contrary to the regulations.

We anticipate that permit applications, permit fees, the bird survey by a well-regarded subcontractor to Aquatic Environments, noticing of neighboring property owners (if requested of us), will add approximately \$5,000-\$10,000 to the base contract. Our intent in your permitting process is to create a repeatable permit model to ensure that subsequent permit applications for maintenance of nuisance aquatic vegetation are prepared at low cost and proceed smoothly through the regulatory process.

If you have any questions or comments, please contact me in our Concord, California office at 925-521-0400 x102 or via mobile phone at 650-868-8240. We look forward to working with the City of Sunnyvale on this important project.

Please visit www.aquamog.com to learn more about our company.

Regards,
Aquatic Environments, Inc.



Lance W. Dohman
Chief Operating Officer

Herbicide Applications Plan

Application of AquaMaster herbicide is a routine endeavor at Aquatic Environments. Our company employs eight registered applicators and has been working with the AquaMaster product for over ten years. In consultation with Casey Brierley, Vice President and Regional Manager of Target Specialty Products and Mike Krebsbach, Account Manager, of Monsanto Company, Aquatic Environments has established the following plan incorporating the Draft Site Safety Assessment, the Pest Control Recommendation, the Table of Licenses, the AquaMaster Label, and the AquaMaster MSDS.

Extreme care will be taken to prevent product drift into non-treatment areas including ceasing the application if wind conditions deteriorate. We most commonly apply herbicides on the Peninsula before noon to avoid somewhat predictable afternoon winds. All employees will also review and contribute to the Draft Site Safety Assessment and follow and Plant safety and operational procedures relevant to our Scope of Work including using frequent sterilization of equipment and body parts that come into contact with Oxidation Pond waters.

Draft Site Safety Assessment

Herbicide Applications

Potential Hazards	Methods to Ensure Worker Safety
Drowning	When the targeted vegetation requires herbicide application via boats, all employees are required to wear Coast Guard approved Type III Personal Floatation Devices (PFD) at all times while on/near the water. All employees must pass a swim test including the ability to tread water and swim 50 meters without resting. Construction boots and waders are not to be worn simultaneously on the open water. Waders must have functioning release mechanisms.
Slipping on wet surfaces of the boat.	The boat to be used will be an aluminum boat. The boats have non-slip tread wear surface treatments. Care to eliminate standing or extended leaning over the boat will be taken.
Falling or Propeller Injury	The crew of two performs chemical and dye applications. The boat operator will serve as the spotter during all applications. The boat operator will have a minimum of 150 hours of boat operation and have passed AEI's Boating Safety instruction course for 2008-09
Lifting/Straining or falling	The chemical packages are generally less than 20 lbs but care must be utilized when loading these materials into trucks or the application boat. To avoid this the potential for awkward lifting conditions, the staging process will be carried out by two people.
Launch/Retrieval of the Boat	Launching and retrieval of the boat exposes the employees to potential for drowning, pinching, or slip/fall type injuries. To minimize this risk, AEI employees will wear PFD's and mud boots or waders for the launch of the boat. This operation will take a minimum of two employees to perform and shall never be attempted by one person.
Heat Exhaustion	All crews will maintain cool water on site and shall take periodic breaks during periods of high temperatures. Crew leaders shall chat with each employee regular intervals to assess for symptoms from heat. These intervals shall be reduced as temperature increases. No work shall occur if the ambient temperature exceeds 95 degrees.
Other Hazards-	AEI will maintain first aid kits within 200 feet of all activities. Each boat and truck

First Aid	will carry a basic first aid kit at all times.
Chemical Exposure Hazards	<p>a) Chemical hazards vary greatly depending on the type of chemical being applied. Prior to application, applicators must receive a recommendation from a California registered Pest Control Advisor (PCA) and must read the appropriate MSDS and Product Label.</p> <p>b) Prior to the application, the crew leader will review label information with the crew. To ensure that the junior staff understands this job requirement, the crew leader will present a quiz involving 10 questions derived from the MSDS and Label before the application may begin.</p> <p>c) All applicators of chemicals at AEI must be licensed by the California Department of Pesticide Regulation (DPR). These regulations are more stringent than State requirements that include provisions that an applicator must simply be on site during the pesticide application.</p> <p>d) All AEI applicators must, at a minimum, wear Tyvek gowns, eye protection, gloves, and suitable footwear. Additional dust mask or respirator requirements may apply per the product MSDS or Label.</p> <p>e) Applicators must follow the detailed protocols established by the DPR including postings, pesticide safety training, and pesticide safety information described in HS-1742 rev 2003 sections N1-N8.</p>

Aquatic Weed Harvester Operations

Potential Hazards	Methods to Ensure Worker Safety
Drowning	All employees are required to wear Coast Guard approved Type III Personal Floatation Devices (PFD) at all times while on/near the water. Construction boots and waders are not to be worn simultaneously on the open water.
Tripping over equipment on deck of the Harvester	The deck of the Harvester will be regularly inspected and kept clear of unnecessary obstacles, tools and oils.
Slipping on wet deck surfaces	The Harvester deck surfaces are constructed of non-slip panels of catwalk material. Long pants shall be worn to prevent abrasion in the event of a fall.
Fueling and hydraulic spills	Fueling operations will take place from shore based equipment. Each piece of equipment on the water will have an onboard spill and containment kit. In addition, the hydraulic fluid used on all the on water equipment is USCG approved, vegetable oil, for little or no impact to the area in the event of a hydraulic spill.
Fire Hazards	The Harvester will be equipped with approved fire extinguishers. Harvesters operate on petroleum fuels so a no smoking policy is strictly enforced during work hours.
Other Hazards-	AEI will maintain first aid kits within 200 feet of all activities. Each truck and

First Aid	carries a basic first aid kit at all times.
Loose Equipment	The Harvester shall be tied to shore and secured in at least two places to prevent movement when moored in the water.
Trailer Injuries Shore Trailer and Shore Conveyor	Employees must check equipment before attempting to load in and out of the water. Tie downs must be secured, tire pressures checked, fittings greased, towing ball size verified to equal that on the tongue of the trailer.
Heat Exhaustion	All crews will maintain cool water on site and shall take periodic breaks during periods of high temperatures. Crew leaders shall chat with each employee regular intervals to assess for symptoms from heat. These intervals shall be reduced as temperature increases. No work shall occur if the ambient temperature exceeds 95 degrees.

Hazards Associated with Cattail Mowing when Mowing is Conducted from the Water

Potential Hazards	Methods to Ensure Worker Safety
Flying Debris	AEI's mowing equipment includes windshields constructed of safety glass providing a basic level of protection from flying debris. Spotters, field crews, operators shall wear hard hats, steel toed boots, jeans, long sleeved shirts, safety vests, and ANSI approved eye protection at all times. Guards on all mowing equipment shall be inspected daily. The mowing area shall be protected from intrusion by a spotter, caution tape, and cones within a 125 foot radius of the mowing area.
Heat Exhaustion	AEI's mowing equipment is air conditioned for operator comfort. All crews will maintain cool water on site and shall take periodic breaks during periods of high temperatures. Crew leaders shall chat with each employee regular intervals to assess for symptoms from heat. These intervals shall be reduced as temperature increases. No work shall occur if the ambient temperature exceeds 95 degrees.
Fire Hazards	Mowing will generally occur on wet vegetation and there is a limited chance of fire given these conditions. If mowing occurs in dry grass areas, a water tender will be provided with a fire fighting pump. All mowing equipment is equipped with a fire extinguisher.
Other Hazards/First Aid	AEI will maintain first aid kits within 200 feet of all activities. Each truck carries a basic First Aid kit at all times
Crushing or Entrapment Injuries	All shore based personnel will have retro-reflective construction vests on at all times during the work. All equipment will have functioning, audible, back up alarms. Personnel will be cognizant of tractors, trucks, and other equipment when walking or occupying the work zone.
Equipment Related Injuries	For each piece of equipment onsite, the operator shall be trained in the use, operations, limitations and safety features of that particular equipment. Over the road vehicles shall have all legal and necessary lights, blinkers, hazards, tires, and safety items in an operable state before entering the site. Mower operators are to watch the safety provided by Bobcat/ Ingersoll Rand.

Pest Control Recommendation

05/15/2009 01:43 FAX 9254624176

TARGET

RECEIVED 05/15/2009 12:23

002

VA

Target Specialty Products

Rev. 3/06

Pest Control Recommendation

Grower / Operator Name CITY OF SUNNYVALE Recommendation Expires 12/30/09
 Address 1444 BORRELLAS AVE SUNNYVALE, CA (H2O POLLUTION PLANT)
 City SUNNYVALE State CA Zip 94088 County SANTA CLARA
 Applicator AQUATIC ENVIRONMENTS P.O. BOX 1406 ALAMO, CA 94507
 Application Location or Site OXIDATION PONDS EAST OF THE SUNNYVALE H2O POLLUTION PLANT
 Commodity or crop to be treated OXIDATION PONDS Area to be treated 3 ACRES
 Pest(s) to be controlled CATTAIL, BULLRUSH Method of Application: Air Ground Other

Name of Pesticide	Rate Per Acre or Unit	Dilution Rate	Volume Per Acre or Unit
<u>AQUA-MAXTER</u>	<u>2 OZ PER</u>	<u>GALLON H2O</u>	<u>SPRAY TO WET</u>
<u>PRO-SPREMLER</u>	<u>.64 OZ PER</u>	<u>GALLON H2O</u>	
<u>SPT-MAX SPRAY MIXER</u>	<u>.64 OZ PER</u>	<u>GALLON H2O</u>	

Hazards and/or Restrictions

- Highly toxic to bees
- Toxic to birds, fish and wildlife
- Do not apply during irrigation or when run-off is likely to occur
- Do not apply near desirable plants
- Do not allow to drift onto humans, animals, desirable plants or property
- Keep out of lakes, streams and ponds
- Birds feeding on treated area may be killed
- Do not apply when foliage is wet (dew, rain, etc.)
- May cause allergic reaction to some people
- This product is corrosive and reacts with certain materials (see label)
- Closed system required
- Restricted use pesticide (California and/or federal)
- Hazardous area involved (see map and warnings)
- Other (See attachment)

Criteria used to determine need for pest control:

- Sweep Net Count
- Field Observation
- Preventative
- History
- Trap
- Soil Sampling
- Other

Schedule, Time or Conditions:

Surrounding Hazards including crops, occupied dwellings, people, pets, livestock and others:

Crop and Site Restrictions:

- Worker re-entry interval _____ Hours Days
- Do not use within _____ days of harvest
- Posting required Yes No
- Do not irrigate for at least _____ Hours Days after application
- Do not apply more than _____ application(s) per season
- Do not feed treated foliage / straw / clippings to livestock
- Plantback restrictions (see labels)
- Other (see attachment)

Comments:

I certify that alternatives and mitigation measures that would substantially lessen any significant adverse impact on the environment have been considered and, if feasible, adopted.
 Adviser Sig. Thomas Amery Date 5-15-09
 Adviser License No: 70113
 Employer TARGET SPECIALTY PRODUCTS
 Employer Address 1155 MANLY RD SAN JOSE, CA 95133



Santa Fe Springs Fresno San Jose Tempe San Marcos Portland Sacramento
 800-352-3870 800-827-4389 800-767-0719 800-352-5548 800-237-5233 877-827-4381 800-533-0816

WHITE - Customer/Applicator 18P-92

CANARY - Owner/Operator

PINK - Wifon Rec. Coordinator

GOLDEN ROD - PCA File Rev 3/06

Table of Licenses

Aquatic Environments

Department of Pesticide Regulation – Table of Licenses and Certifications

March 16, 2009

Name	Title	Type / License No./ Category	Expiration
Aquatic Environments	Pest Control Business License	PCM 31792	12/31/20010
Thomas C. (Casey) Brierley, Target Specialty Products	Vice President	PCA 70113 A,B,C,D,E,F,G	12/31/2010
George P. Forni	President	QAL 108729 F	12/31/2010
Jose Botello	Aerator and Chemical Team Leader	QL 109180 C,F	12/31/2010
Sal Gaytan	Crew Leader	QAC 95091 F	12/31/2010
Juan Carlos Ornelas	Applicator/ Crew Member	QAC 28070 F	12/31/2009
Gary Hoover	Water Feature Maintenance Division Manager	QAL 109179 F	12/31/2010
Wade Duckworth	Water Feature Maintenance Foreman	QAL 109120 B,C,F Also Licensed in Nevada	12/31/2010



May 15, 2009 - REVISED

City of Sunnyvale
Purchasing Division
City Hall Annex
650 West Olive Avenue
P.O. Box 3707
Sunnyvale, CA 94088-3707

Re: Qualifications Cover Letter for **Invitation for Bids #F0812-39**

Attention: Dan Hammons, WPCP Maintenance and Facility Manager
David Gakle, Principal Buyer

Thank you for the opportunity to meet at pre-bid conference on February 17. We appreciate the time and effort that you and your staff have dedicated to the development of the Oxidation Pond Vegetation Removal at the Water Pollution Control Plant Invitation for Bids.

Aquatic Environments has built an industry-leading company based solely on vegetation management and aquatic construction. We encourage you to call upon our references in our bid submittal. Based on our years of experience designing, constructing & managing wetlands and our studies of the bid package & two visits to the site; we respectfully offer our views on the project and rationale for our approach in Section I - Aquatic Environments Perspective.

Our bid for the project is based on our unique Vegetation Control Methodology outlined in Section II of this letter including: (a.) applying Aquamaster herbicide to kill the plant (b.) mowing aquatic vegetation from the water, and (c.) collecting and disposing of emergent vegetation with aquatic weed harvesters. A repeat application in the fall will be necessary for optimal control.

Our method of vegetation control is orders of magnitude more effective than attempting to excavate the plants and their viable root fragments from the levee banks. Whether the City of Sunnyvale contracts to control vegetation through our methods or via excavation into the levee banks as was proposed in the pre-bid walk, any regrowth will need to be controlled via a low-cost spot treatment of herbicides in the late Summer/ early Fall.

Section I - Aquatic Environments Perspective

Our views on the project requirements and our approach to mitigating the potential issues raised by the project are highlighted below:

1. **Removal of Cattails from levee banks requires 100% removal of the root system to prevent regrowth.** In our experience, removal of all root fragments deep into the levees is both impractical and uneconomical. Rapid regrowth of the plants unless all root fragments are treated with herbicides. Modern herbicides kill roots via translocation into the roots and inhibition of enzymes necessary for plant function. They are practically nontoxic as they inhibit the function of enzymes that are present only in plants.

Aquatic Construction • Habitat Restoration • Lake & Water Feature Maintenance

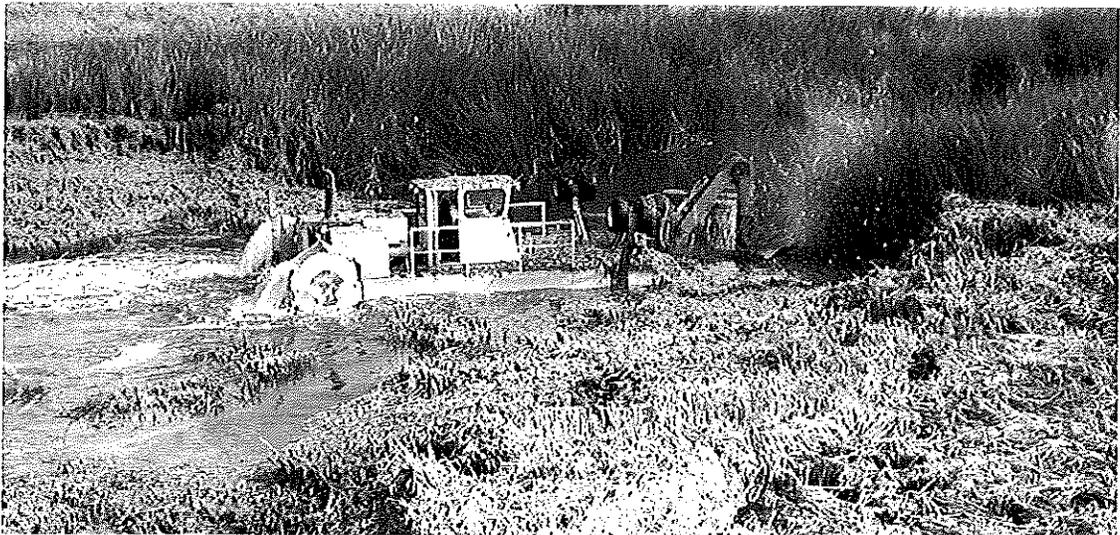
P.O. Box 1406 Alamo, CA 94507 • Phone (925) 521-0400 • Fax (925) 521-0403
Contractors License A754569 • www.aquamog.com

Aquatic Environments is a licensed applicator for the most sensitive wetland environments and has years of experience applying Imazapyr herbicide to control invasive plants in channels, lagoons, and tidal mudflats throughout the Bay Area.

2. **The efficacy of cattail removal may be dictated by the winning bidder's costs at the landfill.** If the costs to dispose of vegetation and levee materials becomes costly to the contractor, he may be encouraged to dig less deeply into the levee banks to remove the network of roots that give rise to future cattail populations.
3. **Levee damage and replacement of levee materials is costly.** Heavy excavation and tractor trailer transport will result in significant damage to the levees. Most roads will require grading and addition of aggregate base after completion of the work. Furthermore, in order to remove root systems, significant quantities of levee materials including soil and rip rap will be removed from the site and dumped at the landfill. While many of these materials appear to be available at no cost to the City as donations along the levee banks, placement and compaction costs of these replacement materials must be included in the overall economics of the project. Our method of mowing, collecting, and herbicide applications are primarily completed from the water with minimal and manageable heavy equipment impacts to the levees.

Section II - Vegetation Control Methodology

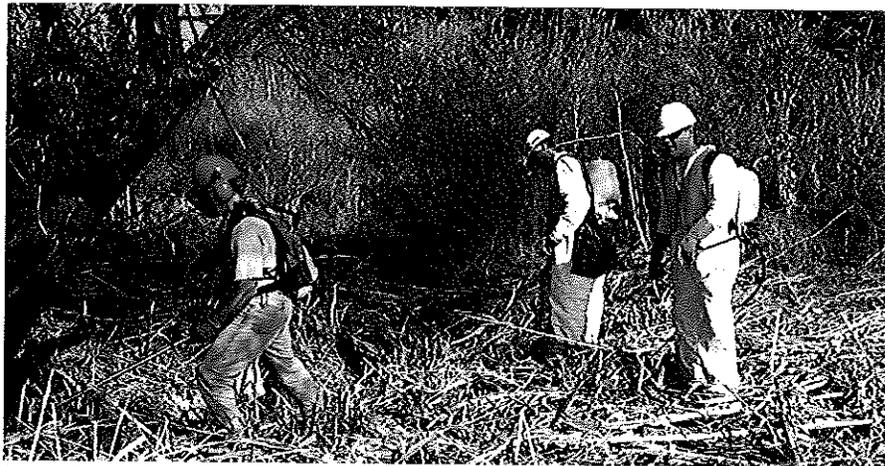
In most of the water treatment facilities in which we operate, vegetation AEI will mobilize an Aquamog Wetland Restoration System with Rotary Mower and an Aquatic Weed Harvester from our yard in Concord, CA. These machines will work in unison to cut vegetation to the levee banks, collect floating materials, and conveyer the cut vegetation to the levee or into trucks provided by Aquatic Environments. Floating vegetation control booms will be maintained to protect pumping operations during the removal and for at least one week thereafter. Vegetation may be compacted to reduce landfill costs.



An Aquamog utilizes a rotary mower on *Cattail* to improve water flow for the Alameda Flood Control District.



An aquatic weed harvester collects cut vegetation for compaction & offsite disposal for the City of Santa Cruz.



Licensed herbicide applicator crews cutting and spraying *Arundo Donax* for the Santa Clara Valley Water District.



Application of aquatic herbicides via airboat for the City of San Mateo.



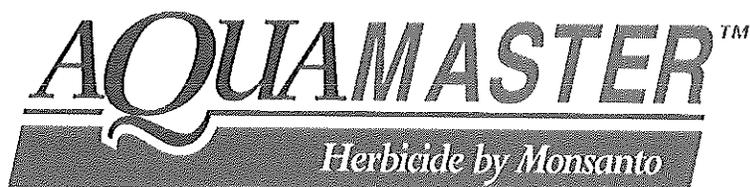
Invasive *Spartina Cordgrass* is eradicated by an Aquatic Environments applicator using herbicides in South San Francisco.

If you have any questions or comments, please contact me in our Concord, California office at 925-521-0400 x102 or via mobile phone at 650-868-8240. We look forward to working with the City of Sunnyvale on this important project.

Please visit www.aquamog.com to learn more about our company.

Regards,
Aquatic Environments, Inc.

Lance W. Dohman
Chief Operating Officer



AquaMaster™ Technical Fact Sheet

January 2002

Introduction

AquaMaster™ herbicide – which consists of glyphosate isopropylamine salt (the active ingredient) and water – is a non-selective aquatic herbicide that controls emerged vegetation in and around bodies of fresh and salt water. AquaMaster herbicide is effective in lakes, rivers, streams, ponds, seeps, irrigation and drainage ditches, canals, reservoirs, wastewater treatment facilities, wildlife habitat restoration and management areas, and similar sites. When applied according to label directions, AquaMaster herbicide can be used without unreasonable adverse effects to human health or the environment.

Health and Safety

AquaMaster herbicide has been evaluated in numerous studies with laboratory animals and wildlife species using exposure levels far greater than the levels that might occur from labeled use of the herbicide. Mammalian toxicity data and irritation scores from laboratory studies conducted with AquaMaster herbicide are summarized in Tables 1 and 2.

Table 1. AquaMaster Herbicide Mammalian Acute Toxicity

Exposure Route	Animal	LD ₅₀ ¹	EPA Category ²
Oral	rat	>5,000 mg/kg	IV
Dermal	rabbit	>5,000 mg/kg	IV

Table 2. AquaMaster Herbicide Irritation Scores

Exposure Route	Animal	Irritation Score
Eye	rabbit	0.0 on a scale of 110.0 (non-irritating)
Skin	rabbit	0.1 on a scale of 8.0 (practically non-irritating)

¹ The LD₅₀ is the dose that causes death in 50% of the test animals.

² The U.S. Environmental Protection Agency has established acute toxicity categories ranging from slight to moderate to severe, with Category I being severe and Category IV being slight.

The U.S. Environmental Protection Agency classifies herbicides for acute toxicity into one of four categories, where “I” is the most toxic and “IV” is the least toxic. Glyphosate, the active ingredient in AquaMaster herbicide, is rated in the U.S. as Category IV for acute oral toxicity based on tests conducted on rats.

The results from extensive, chronic toxicology tests resulted in an EPA cancer classification of glyphosate as a “Category E,” or “evidence of non-carcinogenicity for humans,” the most favorable rating granted.

Studies have also shown that glyphosate does not cause birth defects or reproductive problems in laboratory animals, and no adverse effects have been observed in mutagenicity and genotoxicity tests.

In 2000, three internationally recognized toxicologists published a safety evaluation and risk assessment of glyphosate. They concluded that glyphosate has low acute toxicity, is not a carcinogen, does not adversely affect reproduction and development, and does not bioaccumulate in mammals.³

No Water Restrictions

When AquaMaster herbicide is used according to label directions, there are no restrictions on the use of water from treated areas for irrigation, recreation, or domestic purposes. Studies have demonstrated that crops irrigated with water from areas treated with AquaMaster herbicide will not be adversely affected. Residue levels of glyphosate in water have been found to be significantly below the acceptable level established by the EPA.

³ Williams GM, Kroes R, Munro IC (2000) Safety evaluation and risk assessment of the herbicide Roundup and its active ingredient, glyphosate, for humans. Reg Toxicol Pharmacol 31(2):117-165.

Environmental Fate

Glyphosate, the active ingredient in AquaMaster herbicide, has favorable environmental fate characteristics. Over time, glyphosate undergoes microbial degradation in soil, sediment and natural waters, under both aerobic and anaerobic conditions. The major metabolite formed is aminomethylphosphonic acid, which undergoes further microbial degradation. Glyphosate is ultimately metabolized to carbon dioxide, inorganic phosphate, and other naturally occurring compounds.

Glyphosate binds tightly to most types of soil and sediment until it is degraded, and is not absorbed by roots from soil or sediment. This tight binding results in an extremely low potential for glyphosate to move into groundwater.

Glyphosate readily dissipates from surface water by two primary mechanisms. It quickly partitions from water into sediment, and then is microbially degraded over time in both water and the sediment. In flowing waters, factors such as tributary dilution and dispersion contribute to the dissipation of glyphosate.

The dissipation of glyphosate in sterile and non-sterile water has been extensively studied. A review of the available dissipation field studies concluded that 50% of the concentration of glyphosate initially found in water dissipates within time periods ranging from a few days to two weeks.⁴

Thermal Degradation Studies

Some vegetation management practices involve the burning of weeds and brush following herbicide application. An assessment of the thermal decomposition products of glyphosate clearly shows that they will not cause adverse effects to individuals exposed to the smoke and gases formed as a result of burning treated vegetation. This assessment is based on the maximum application rate of 7½ pints of AquaMaster herbicide per acre, and assumes that no decomposition of glyphosate occurs prior to burning.

Extremely Low Volatility

Glyphosate, the active ingredient in AquaMaster herbicide, has extremely low volatility. That means that AquaMaster will not produce vapors that could move through air after application and damage non-target vegetation.

Bioaccumulation

In laboratory studies conducted with glyphosate, bioconcentration factors were less than 1.0, indicating that glyphosate does not accumulate in fish. The low bioaccumulation factor is a result of glyphosate being readily soluble in water, and therefore subject to rapid elimination from organisms in water. Other animal species studied include marine mollusks and crustaceans, and also showed low potential for bioaccumulation.

Moreover, tissue analyses showed that of the trace amounts of glyphosate residue found, more than 75 percent was contained in non-edible portions of the fish. When exposed fish were transferred to glyphosate-free water, virtually all of the glyphosate was eliminated from their tissues.

Wildlife Safety

The acute toxicity of glyphosate and AquaMaster herbicide to terrestrial and aquatic wildlife has been extensively evaluated, with laboratory and field results indicating low acute toxicity and low risk from direct exposure. The scientific literature contains hundreds of articles addressing this topic.⁵

Laboratory studies indicate that AquaMaster herbicide will not cause adverse effects to earthworms and honeybees (following acute exposure) or avian species, such as Mallard ducks or Bobwhite quail (following oral and dietary exposure). In 2000, a comprehensive ecotoxicological risk assessment was published for glyphosate.⁴ The authors concluded that the use of glyphosate poses minimal risk to non-target species.

AquaMaster herbicide and glyphosate have low acute toxicity to aquatic organisms. Surfactants that might be mixed with AquaMaster herbicide can have low to moderate acute toxicity to aquatic organisms. However, the toxicity and exposure are sufficiently low that no unreasonable adverse effects to aquatic organisms are expected to occur under normal use conditions.

⁴ Giesy JP, Dobson S, Solomon KR (2000) Ecotoxicological risk assessment for Roundup herbicide. *Reviews of Environmental Contamination and Toxicology* 167: 35-120.

⁵ Sullivan DS, Sullivan TP (2000) Non-target impacts of the herbicide glyphosate: A compendium of references and abstracts. 5th Edition. Applied Mammal Research Institute, Summerland, British Columbia, Canada.

Table 3 summarizes the results of laboratory testing with AquaMaster herbicide and glyphosate for fish, algae, and aquatic invertebrates.

Table 3: Aquatic Acute Toxicity Data

Species, Endpoint	LC ₅₀ or EC ₅₀ (mg/L) ⁶	EPA Classification
AquaMaster herbicide		
Bluegill sunfish, 96-hr LC ₅₀	> 1,000	Practically non-toxic
Rainbow trout, 96-hr LC ₅₀	> 1,000	"
<i>Daphnia magna</i> , 48-hr EC ₅₀	930	"
Green algae, 72-hr EC ₅₀ (growth)	166	"
Glyphosate		
Sheepshead minnow, 96-hr LC ₅₀	>1000	"
Grass shrimp, 96-hr LC ₅₀	281	"
Mysid shrimp, 96-hr LC ₅₀	> 1,000	"
Sea urchin, 96-hr LC ₅₀	> 1,000	"
Fiddler crab, 96-hr LC ₅₀	934	"

The maximum glyphosate concentration following AquaMaster herbicide application to a shallow pond can be calculated. For the maximum application rate of 7½ pints/acre, the maximum glyphosate concentration immediately after application to a 1-foot deep waterbody would be 1.4 mg/L. This assumes no interception by foliage being treated, which would reduce the amount of glyphosate reaching the water surface. A comparison of this concentration with the toxicity data in Table 3 demonstrates that when AquaMaster herbicide is used at labeled rates, it is highly unlikely that glyphosate concentrations would reach levels harmful to aquatic species.

In a study conducted to assess the effect of various herbicides on submerged aquatic vegetation, the authors concluded that "glyphosate would appear to pose no threat to non-target, submersed aquatic plants."

Ecosystem Studies

Because glyphosate-based herbicides are widely used throughout the world, ecosystem studies have been conducted to assess what effect, if any, the use of glyphosate has on an ecosystem. Results from two comprehensive ecosystem studies – the Canadian Carnation Creek Study⁷ and the Oregon State University⁸ study – indicate the following:

When used according to directions, glyphosate, the active ingredient in AquaMaster herbicide:

- readily degrades over time in soil;
- is essentially immobile in soil and is not likely to contaminate ground water;
- does not cause significant adverse health or migrational changes in fish; and
- has no significant adverse effects on aquatic or terrestrial invertebrates or waterfowl.

Habitat Restoration & Enhancement

AquaMaster herbicide can be used for the restoration and/or maintenance of native habitat and in wildlife management areas, including riparian and estuarine areas and wildlife refuges. Applications of AquaMaster herbicide can be made to allow recovery of native plant species, as well as prior to planting desirable native species.

SUMMARY

AquaMaster herbicide offers favorable toxicological and environmental characteristics. When applied according to label directions, AquaMaster herbicide can be used without unreasonable adverse effects to human health or the environment.

⁶ The LC₅₀ is the concentration that produces 50% mortality in the test. The EC₅₀ is the concentration that produces effects (inhibition of growth or immobilization) in 50% of the test organisms.

⁷ Forest Pest Management Institute. (1989) Proceedings of the Carnation Creek Herbicide Workshop (Sault Ste. Marie, Ontario). Ministry of Forests, Research Branch.

⁸ Newton M et al. (1984) Fate of glyphosate in an Oregon Forest Ecosystem. Journal of Agricultural and Food Chemistry 32: 1144.

<p style="text-align: center;">MONSANTO COMPANY Material Safety Data Sheet Commercial Product</p>
--

1. PRODUCT AND COMPANY IDENTIFICATION

Product name

AquaMaster® Herbicide

EPA Reg. No.

524-343

Product use

Herbicide

Chemical name

Not applicable.

Synonyms

None.

Company

MONSANTO COMPANY, 800 N. Lindbergh Blvd., St. Louis, MO, 63167

Telephone: 800-332-3111, Fax: 314-694-5557

Emergency numbers

FOR CHEMICAL EMERGENCY, SPILL LEAK, FIRE, EXPOSURE, OR ACCIDENT Call CHEMTREC - Day or Night: 1-800-424-9300 toll free in the continental U.S., Puerto Rico, Canada, or Virgin Islands. For calls originating elsewhere: 703-527-3887 (collect calls accepted).

FOR MEDICAL EMERGENCY - Day or Night: +1 (314) 694-4000 (collect calls accepted).

2. COMPOSITION/INFORMATION ON INGREDIENTS

Active ingredient

Isopropylamine salt of N-(phosphonomethyl)glycine; {Isopropylamine salt of glyphosate}

Composition

COMPONENT	CAS No.	% by weight (approximate)
Isopropylamine salt of glyphosate	38641-94-0	53.8
Water	7732-18-5	46.2

OSHA Status

This product is not hazardous according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

3. HAZARDS IDENTIFICATION

Emergency overview

Appearance and odour (colour/form/odour): Colourless - Amber / Liquid, (viscous) / Odourless

CAUTION!

Potential health effects

Likely routes of exposure

Skin contact, eye contact, inhalation

Eye contact, short term

Not expected to produce significant adverse effects when recommended use instructions are followed.

Skin contact, short term

Not expected to produce significant adverse effects when recommended use instructions are followed.

Inhalation, short term

Not expected to produce significant adverse effects when recommended use instructions are followed.

Refer to section 11 for toxicological and section 12 for environmental information.

4. FIRST AID MEASURES

Eye contact

Immediately flush with plenty of water.
If easy to do, remove contact lenses.

Skin contact

Take off contaminated clothing, wristwatch, jewellery.
Wash affected skin with plenty of water.
Wash clothes and clean shoes before re-use.

Inhalation

Remove to fresh air.

Ingestion

Immediately offer water to drink.
Do NOT induce vomiting unless directed by medical personnel.
If symptoms occur, get medical attention.

Advice to doctors

This product is not an inhibitor of cholinesterase.

Antidote

Treatment with atropine and oximes is not indicated.

5. FIRE-FIGHTING MEASURES

Flash point

none

Extinguishing media

Recommended: Water, foam, dry chemical, carbon dioxide (CO₂)

Unusual fire and explosion hazards

None.
Environmental precautions: see section 6.

Hazardous products of combustion

Carbon monoxide (CO), phosphorus oxides (P_xO_y), nitrogen oxides (NO_x)

Fire fighting equipment

Self-contained breathing apparatus.
Equipment should be thoroughly decontaminated after use.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protection recommended in section 8.

Environmental precautions

SMALL QUANTITIES:
Low environmental hazard.

LARGE QUANTITIES:

Minimise spread.
Keep out of drains, sewers, ditches and water ways.
Notify authorities.

Methods for cleaning up

SMALL QUANTITIES:

Flush spill area with water.

LARGE QUANTITIES:

Absorb in earth, sand or absorbent material.
Dig up heavily contaminated soil.
Collect in containers for disposal.
Refer to section 7 for types of containers.
Flush residues with small quantities of water.
Minimise use of water to prevent environmental contamination.

Refer to section 13 for disposal of spilled material.

7. HANDLING AND STORAGE

Good industrial practice in housekeeping and personal hygiene should be followed.

Handling

Avoid contact with skin and eyes.
When using do not eat, drink or smoke.
Wash hands thoroughly after handling or contact.
Thoroughly clean equipment after use.
Do not contaminate drains, sewers and water ways when disposing of equipment rinse water.
Refer to section 13 for disposal of rinse water.
Emptied containers retain vapour and product residue.

Storage

Minimum storage temperature: -15 °C
Maximum storage temperature: 50 °C
Compatible materials for storage: stainless steel, aluminium, fibreglass, plastic, glass lining
Incompatible materials for storage: galvanised steel, unlined mild steel, see section 10.
Keep out of reach of children.
Keep away from food, drink and animal feed.
Keep only in the original container.
Partial crystallization may occur on prolonged storage below the minimum storage temperature.
If frozen, place in warm room and shake frequently to put back into solution.
Minimum shelf life: 5 years.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne exposure limits

Components	Exposure Guidelines
Isopropylamine salt of glyphosate	No specific occupational exposure limit has been established.
Water	No specific occupational exposure limit has been established.

Engineering controls

No special requirement when used as recommended.

Eye protection

No special requirement when used as recommended.

Skin protection

No special requirement when used as recommended.

Respiratory protection

No special requirement when used as recommended.

When recommended, consult manufacturer of personal protective equipment for the appropriate type of equipment for a given application.

9. PHYSICAL AND CHEMICAL PROPERTIES

These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

Colour/colour range:	Colourless - Amber
Form:	Liquid, (viscous)
Odour:	Odourless
Flash point:	none
Specific gravity:	1.206 @ 20 °C / 15.6 °C
Solubility:	Water: Completely miscible.
pH:	4.6 - 4.8 @ 63 g/l
Partition coefficient (log Pow):	< 0.000 (active ingredient)

10. STABILITY AND REACTIVITY

Stability

Stable under normal conditions of handling and storage.

Hazardous decomposition

Thermal decomposition: Hazardous products of combustion: see section 5.

Materials to avoid/Reactivity

Reacts with galvanised steel or unlined mild steel to produce hydrogen, a highly flammable gas that could explode.

11. TOXICOLOGICAL INFORMATION

This section is intended for use by toxicologists and other health professionals.

Data obtained on product, similar products and on components are summarized below.

Mutagenicity

Micronucleus test(s):

Not mutagenic.

Ames test(s):

Not mutagenic with and without metabolic activation.

Isopropylamine salt of glyphosate (62%)

Acute oral toxicity

Rat, LD50 (limit test): > 5,000 mg/kg body weight

Practically non-toxic.

FIFRA category IV.

No mortality.

Mouse, LD50 (limit test): > 5,000 mg/kg body weight
Practically non-toxic.
FIFRA category IV.
No mortality.

Acute dermal toxicity

Rabbit, LD50 (limit test): > 5,000 mg/kg body weight
Practically non-toxic.
FIFRA category IV.
No mortality.

Skin irritation

Rabbit, 6 animals, Draize test:
Days to heal: 3
Primary Irritation Index (PII): 0.0/8.0
Essentially non irritating.
FIFRA category IV.

Acute inhalation toxicity

Rat, LC50, 4 hours, aerosol: > 4.24 mg/L
Practically non-toxic.
FIFRA category IV.
No mortality. Maximum attainable concentration.

Skin sensitization

Guinea pig, Buehler test:
Positive incidence: 0 %

N-(phosphonomethyl)glycine; {glyphosate}

Mutagenicity

In vitro and in vivo mutagenicity test(s):
Not mutagenic.

Repeated dose toxicity

Rabbit, dermal, 21 days:
NOAEL toxicity: > 5,000 mg/kg body weight/day
Target organs/systems: none
Other effects: none

Rat, oral, 3 months:
NOAEL toxicity: > 20,000 mg/kg diet
Target organs/systems: none
Other effects: none

Chronic effects/carcinogenicity

Mouse, oral, 24 months:
NOEL tumour: > 30,000 mg/kg diet
NOAEL toxicity: ~ 5,000 mg/kg diet
Tumours: none
Target organs/systems: liver
Other effects: decrease of body weight gain, histopathologic effects

Rat, oral, 24 months:
NOEL tumour: > 20,000 mg/kg diet
NOAEL toxicity: ~ 8,000 mg/kg diet
Tumours: none
Target organs/systems: eyes
Other effects: decrease of body weight gain, histopathologic effects

Toxicity to reproduction/fertility

Rat, oral, 3 generations:
NOAEL toxicity: > 30 mg/kg body weight
NOAEL reproduction: > 30 mg/kg body weight
Target organs/systems in parents: none
Other effects in parents: none

Target organs/systems in pups: none
Other effects in pups: none

Developmental toxicity/teratogenicity

Rat, oral, 6 - 19 days of gestation:

NOAEL toxicity: 1,000 mg/kg body weight
NOAEL development: 1,000 mg/kg body weight
Other effects in mother animal: decrease of body weight gain, decrease of survival
Developmental effects: weight loss, post-implantation loss, delayed ossification
Effects on offspring only observed with maternal toxicity.

Rabbit, oral, 6 - 27 days of gestation:

NOAEL toxicity: 175 mg/kg body weight
NOAEL development: 175 mg/kg body weight
Target organs/systems in mother animal: none
Other effects in mother animal: decrease of survival
Developmental effects: none

12. ECOLOGICAL INFORMATION

This section is intended for use by ecotoxicologists and other environmental specialists.

Data obtained on components are summarized below.

Isopropylamine salt of glyphosate (62%)

Aquatic toxicity, fish

Bluegill sunfish (*Lepomis macrochirus*):

Acute toxicity, 96 hours, static, LC50: > 1,000 mg/L
Practically non-toxic.

Rainbow trout (*Oncorhynchus mykiss*):

Acute toxicity, 96 hours, static, LC50: > 1,000 mg/L
Practically non-toxic.

Aquatic toxicity, invertebrates

Water flea (*Daphnia magna*):

Acute toxicity, 48 hours, static, EC50: 930 mg/L
Practically non-toxic.

Aquatic toxicity, algae/aquatic plants

Green algae (*Scenedesmus subspicatus*):

Acute toxicity, 72 hours, static, ErC50 (growth rate): 166 mg/L
Practically non-toxic.

Soil organism toxicity, invertebrates

Earthworm (*Eisenia foetida*):

Acute toxicity, 14 days, LC50: > 5,000 mg/kg dry soil
Practically non-toxic.

N-(phosphonomethyl)glycine; {glyphosate}

Avian toxicity

Bobwhite quail (*Colinus virginianus*):

Dietary toxicity, 5 days, LC50: > 4,640 mg/kg diet
No more than slightly toxic.

Mallard duck (*Anas platyrhynchos*):

Dietary toxicity, 5 days, LC50: > 4,640 mg/kg diet
No more than slightly toxic.

Bobwhite quail (*Colinus virginianus*):

Acute oral toxicity, single dose, LD50: > 3,851 mg/kg body weight
Practically non-toxic.

Arthropod toxicity

Honey bee (*Apis mellifera*):

Oral, 48 hours, LD50: 100 µg/bee

Honey bee (*Apis mellifera*):

Contact, 48 hours, LD50: > 100 µg/bee

Practically non-toxic.

Bioaccumulation

Bluegill sunfish (*Lepomis macrochirus*):

Whole fish: BCF: < 1

No significant bioaccumulation is expected.

Dissipation

Soil, field:

Half life: 2 - 174 days

Koc: 884 - 60,000 L/kg

Adsorbs strongly to soil.

Water, aerobic:

Half life: < 7 days

13. DISPOSAL CONSIDERATIONS

Product

Not classified as hazardous waste by the Resource, Conservation and Recovery Act (RCRA), 40 CFR 261.

Recycle if appropriate facilities/equipment available.

Burn in special, controlled high temperature incinerator.

Keep out of drains, sewers, ditches and water ways.

Follow all local/regional/national/international regulations.

Consult your attorney or appropriate regulatory officials for information on disposal.

Container

Triple or pressure rinse empty containers.

Pour rinse water into spray tank.

Store for collection by approved waste disposal service.

Dispose of as non hazardous industrial waste.

Do NOT re-use containers.

Follow all local/regional/national/international regulations.

14. TRANSPORT INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

Not hazardous under the applicable DOT, ICAO/IATA, IMO, TDG and Mexican regulations.

15. REGULATORY INFORMATION

TSCA Inventory

All components are on the US EPA's TSCA Inventory

SARA Title III Rules

Section 311/312 Hazard Categories

Not applicable.

Section 302 Extremely Hazardous Substances

Not applicable.

Section 313 Toxic Chemical(s)

Not applicable.

CERCLA Reportable quantity
Not applicable.

16. OTHER INFORMATION

The information given here is not necessarily exhaustive but is representative of relevant, reliable data.
Follow all local/regional/national/international regulations.
Please consult supplier if further information is needed.
For more information refer to product label.
Please consult Monsanto if further information is needed.
In this document the British spelling was applied.
® Registered trademark of Monsanto Company or its subsidiaries.

NFPA	Health	Flammability	Instability	Additional Markings
	0	1	1	

0 = Minimal hazard, 1 = Slight hazard, 2 = Moderate hazard, 3 = Severe hazard, 4 = Extreme hazard

Full denomination of most frequently used acronyms. BCF (Bioconcentration Factor), BOD (Biochemical Oxygen Demand), COD (Chemical Oxygen Demand), EC50 (50% effect concentration), ED50 (50% effect dose), I.M. (intramuscular), I.P. (intraperitoneal), I.V. (intravenous), Koc (Soil adsorption coefficient), LC50 (50% lethality concentration), LD50 (50% lethality dose), LDLo (Lower limit of lethal dosage), LEL (Lower Explosion Limit), LOAEC (Lowest Observed Adverse Effect Concentration), LOAEL (Lowest Observed Adverse Effect Level), LOEC (Lowest Observed Effect Concentration), LOEL (Lowest Observed Effect Level), MEL (Maximum Exposure limit), MTD (Maximum Tolerated Dose), NOAEC (No Observed Adverse Effect Concentration), NOAEL (No Observed Adverse Effect Level), NOEC (No Observed Effect Concentration), NOEL (No Observed Effect Level), OEL (Occupational Exposure Limit), PEL (Permissible Exposure Limit), PIH (Primary Irritation Index), Pow (Partition coefficient n-octanol/water), S.C. (subcutaneous), STEL (Short-Term Exposure Limit), TLV-C (Threshold Limit Value-Ceiling), TLV-TWA (Threshold Limit Value - Time Weighted Average), UEL (Upper Explosion Limit)

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED 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-approved 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, MONSANTO Company 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 the purposes prior to use. In no event will MONSANTO Company 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 TO THE PRODUCT TO WHICH INFORMATION REFERS.

This sample label is current as of 10/27/1999. The product descriptions and recommendations provided in this sample are for background information only. Always refer to the label on the product before using Monsanto or any other agrichemical product.

21195C2-1/CG



Complete Directions for Use in Aquatic and Other Noncrop Sites.

EPA Reg. No. 524-343

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 IS LIKELY TO RESULT.

2004-1

Read the entire label before using this product.

Use only according to label instructions.

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

Not all products recommended on this label are registered for use in California. Check the registration status of each product in California before using.

Read the "LIMIT OF WARRANTY AND LIABILITY" statement at the end of the label before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION OR REPACKAGING. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

1.0 INGREDIENTS

ACTIVE INGREDIENT:

*Glyphosate, N-(phosphonomethyl)glycine,
in the form of its isopropylamine salt 53.8%

OTHER INGREDIENTS: 46.2%
100.0%

*Contains 648 grams per liter or 5.4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt. Equivalent to 480 grams per liter or 4 pounds per U.S. gallon of the acid, glyphosate.

2.0 IMPORTANT PHONE NUMBERS

1. FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT, CALL TOLL-FREE,

1-800-332-3111.

2. IN CASE OF AN EMERGENCY INVOLVING THIS PRODUCT, OR FOR MEDICAL ASSISTANCE, CALL COLLECT, DAY OR NIGHT,
(314)-694-4000.

3.0 PRECAUTIONARY STATEMENTS

3.1 Hazards to Humans and Domestic Animals

Keep out of reach of children.

CAUTION!

Remove contaminated clothing and wash clothing before reuse.

Wash thoroughly with soap and water after handling.

3.2 Environmental Hazards

Do not contaminate water when disposing of equipment washwaters. Treatment of aquatic weeds can result in oxygen depletion or loss due to decomposition of dead plants. This oxygen loss can cause fish suffocation.

In case of: SPILL or LEAK, soak up and remove to a landfill.

3.3 Physical or Chemical Hazards

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

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

4.0 STORAGE AND DISPOSAL

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

STORAGE: STORE ABOVE 10°F (-12°C) TO KEEP PRODUCT FROM CRYSTALLIZING. Crystals will settle to the bottom. If allowed to crystallize, place in a warm room 68°F (20°C) for several days to redissolve and roll or shake container or recirculate in mini-bulk containers to mix well before using.

DISPOSAL: Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state, or local procedures.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed.

FOR REFILLABLE PORTABLE CONTAINERS: Do not reuse this container except for refill in accordance with a valid Monsanto Repackaging or Toll Repackaging Agreement. If not refilled or returned to the authorized repackaging facility, triple rinse container, then puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

FOR METAL CONTAINERS (non-aerosol): Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

FOR BULK CONTAINERS: Triple rinse emptied bulk container. Then offer for recycling or reconditioning, or dispose of in a manner approved by state and local authorities.

FOR PLASTIC 1-WAY CONTAINERS AND BOTTLES: Do not reuse container. Triple rinse container, then puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

FOR DRUMS: Do not reuse container. Return container per the Monsanto container return program. If not returned, triple rinse container, then puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

5.0 GENERAL INFORMATION

This product, a water-soluble liquid, mixes readily with water and non-ionic surfactant to be applied as a foliar spray for the control or destruction of many herbaceous and woody plants.

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 brush species may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow the activity of this product and delay visual effects of control. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts.

Unless otherwise directed on this label, delay application until vegetation has emerged and reached the stages described for control of such vegetation under the "WEEDS CONTROLLED" section of this label.

Unemerged plants arising from unattached underground rhizomes or root stocks of perennials or brush will not be affected by the spray and will continue to grow. For this reason best control of most perennial weeds or brush is obtained when treatment is made at late growth stages approaching maturity.

Always use the higher rate of this product per acre within the recommended range when vegetation is heavy or dense.

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

Reduced control may result when applications are made to any weed or brush species that have been mowed, grazed or cut, and have not been allowed to regrow to the recommended stage for treatment.

Rainfall or irrigation occurring within 6 hours after application may reduce effectiveness. Heavy rainfall or irrigation within 2 hours after application may wash the product off the foliage and a repeat treatment may be required.

When this product comes in contact with soil (on the soil surface or as suspended soil or sediment in water) it is bound to soil particles. Under recommended use situations, once this product is bound to soil particles, it is not available for plant uptake and will not harm off-site vegetation where roots grow into the treatment area or if the soil is transported off-site. Under recommended use conditions, the strong affinity of this product to soil particles prevents this product from leaching out of the soil profile and entering ground water. The affinity between this product and soil particles remains until this product is degraded, which is primarily a biological degradation process carried out under both aerobic and anaerobic conditions by soil microflora.

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.

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

ATTENTION

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of plant or crop injury occurring from the use of this product is greatest when winds are gusty or in excess of 5 miles per hour or when other conditions, including lesser wind velocities, will allow spray drift to occur. 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. When not in use, keep container closed to prevent spills and contamination.

6.0 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.

6.1 Mixing with Water and Surfactant

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 recommended amount of this product and the required surfactant 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.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation may be 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.

When using this product, mix 2 or more quarts of a nonionic surfactant per 100 gallons of spray solution. Use a nonionic surfactant labeled for use with herbicides. The surfactant must contain 50 percent or more active ingredient.

These surfactants should not be used in excess of 1 quart per acre when making broadcast applications.

Always read and follow the manufacturer's surfactant label recommendations for best results. Carefully observe all cautionary statements and other information appearing in the surfactant label.

6.2 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

Desired Volume	Amount of AQUAMASTER					
	3/4%	1%	1 1/4%	1 1/2%	5%	8%
1 Gal	1 oz.	1 1/3 oz.	1 2/3 oz.	2 oz.	6 oz.	10 1/4 oz.
25 Gal	1 1/2 pt.	1 qt.	1 1/4 qt.	1 1/2 qt.	5 qt.	2 gal.
100 Gal	3 qt.	1 gal.	1 1/4 gal.	1 1/2 gal.	5 gal.	8 gal.

2 tablespoons = 1 fluid ounce

For use in backpack, knapsack or pump-up sprayers, it is suggested that the recommended amount of this product be mixed with water in a larger container. Fill sprayer with the mixed solution and add the correct amount of surfactant.

6.3 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 dilution. Use colorants or dyes according to the manufacturer's recommendations.

7.0 APPLICATION EQUIPMENT AND TECHNIQUES

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

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES.

SPRAY DRIFT MANAGEMENT

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.

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.

AERIAL SPRAY DRIFT MANAGEMENT

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 or to public health uses.

1. The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.

- 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.

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 the "Wind," "Temperature and Humidity," and "Temperature Inversion" sections of this label).

Controlling Droplet Size

- Volume:** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with the higher rated flows produce larger droplets.
- Pressure:** Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. 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 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 the exposure of the droplets to evaporation and wind.

Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downward. 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 droplets, etc.).

Wind

Drift potential is lowest between wind speeds of 2 to 10 miles per hour. 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 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).

7.1 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 FOR AERIAL APPLICATIONS IN THAT STATE FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS.

AVOID DRIFT—DO NOT APPLY DURING LOW-LEVEL INVERSION CONDITIONS, WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH FAVORS DRIFT. DRIFT IS LIKELY TO 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.

Use the recommended rates of this product and surfactant in 3 to 20 gallons of water per acre as a broadcast spray, unless otherwise specified.

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

Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

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

PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38413 may prevent corrosion. To prevent corrosion of exposed parts, thoroughly wash aircraft after each day of spraying to remove residues of this product accumulated during spraying or from spills. Landing gear are most susceptible.

7.2 Ground Broadcast Equipment

Use the recommended rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified. See the "WEEDS CONTROLLED" section of this label for specific rates. As density of weeds increases, spray volume should be increased within the recommended range to ensure complete coverage. Carefully select 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.

7.3 Hand-Held and High-Volume Equipment

Use Coarse Sprays Only.

For control of weeds listed in this label using backpack or knapsack sprayers or high-volume spraying equipment utilizing handguns or other suitable nozzle arrangements—Prepare a 3/4 to 2 percent solution of this product in water, add a nonionic surfactant and apply to foliage of vegetation to be controlled. For specific rates of application and instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section in this label.

Applications should be made on a spray-to-wet basis. Spray coverage should be uniform and complete. Do not spray to point of runoff.

This product may be used as a 5 to 8 percent solution 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. If a straight stream nozzle is used, start the application at the top of the targeted vegetation and spray from top to bottom in a lateral zig-zag motion. Ensure that at least 50 percent of the leaves are contacted by the spray solution. For flat fan and cone nozzles and with hand-directed mist blowers, mist the application over 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, applications must be made from several sides to ensure adequate spray coverage.

7.4 Selective Equipment (Wiper Applications)

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

Wiper applications can be used to control or suppress annual and perennial weeds listed on this label. In heavy weed stands, a double application in opposite directions may improve results. See the "WEEDS CONTROLLED" section in this label for recommended timing, growth stage and other instructions for achieving optimum results.

AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION AS SERIOUS INJURY OR DEATH IS LIKELY TO OCCUR.

For wick or wiper applications, mix 2 1/2 gallons of this product plus 1 quart of a nonionic surfactant with 7 1/4 gallons of clean water to prepare a 25 percent solution.

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.

8.0 SITE AND USE RECOMMENDATIONS

Detailed instructions follow alphabetically, by site.

Unless otherwise specified, applications may be made to control any weeds listed in the annual, perennial and woody brush tables. Refer also to the "SELECTIVE EQUIPMENT" section.

8.1 Aquatic and Other Noncrop Sites

When applied as directed and under the conditions described in the "WEEDS CONTROLLED" section in this label, this product will control or partially control the labeled weeds growing in the following industrial, recreational and public areas or other similar aquatic and terrestrial sites.

Aquatic Sites

This product may be applied to emerged weeds in all bodies of fresh and brackish water which may be flowing, nonflowing or transient. This includes lakes, rivers, streams, ponds, estuaries, rice levees, seeps, irrigation and drainage ditches, canals, reservoirs, wastewater treatment facilities, wildlife habitat restoration and management areas, and similar sites.

If aquatic sites are present in the noncrop area and are part of the intended treatment, read and observe the following directions:

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

There is no restriction on the use of treated water for irrigation, recreation or domestic purposes.

Consult local state fish and game agency and water control authorities before applying this product to public water. Permits may be required to treat such water.

NOTE: Do not apply this product directly to water within 1/2 mile upstream of an active potable water intake in flowing water (i.e., river, stream, etc.) or within 1/2 mile of an active potable water intake in a standing body of water such as lake, pond or reservoir. To make aquatic applications around and within 1/2 mile of active potable water intakes, the water intake must be turned off for a minimum period of 48 hours after the application. The water intake may be turned on prior to 48 hours if the glyphosate level in the intake water is below 0.7 parts per million as determined by laboratory analysis. These aquatic applications may be made ONLY in those cases where there are alternative water sources or holding ponds which would permit the turning off of an active potable water intake for a minimum period of 48 hours after the applications. This restriction does NOT apply to intermittent inadvertent overspray of water in terrestrial use sites.

For treatments after drawdown of water or in dry ditches, allow 7 or more days after treatment before reintroduction of water to achieve maximum weed control. Apply this product within 1 day after drawdown to ensure application to actively growing weeds.

Floating mats of vegetation may require retreatment. Avoid wash-off of sprayed foliage by spray boat or recreational boat backwash or by rainfall within 6 hours of application. Do not re-treat within 24 hours following the initial treatment.

Applications made to moving bodies of water must be made while traveling upstream to prevent concentration of this herbicide in water. When making any bankside applications, do not overlap more than 1 foot into open water. Do not spray in bodies of water where weeds do not exist. The maximum application rate of 7 1/2 pints per acre must not be exceeded in any single broadcast application that is being made over water.

When emerged infestations require treatment of the total surface area of impounded water, treating the area in strips may avoid oxygen depletion due to decaying vegetation. Oxygen depletion may result in fish kill.

Other Noncrop-Type Sites—This product may be used to control the listed weeds in terrestrial noncrop sites and/or in aquatic sites within these areas:

Airports
Golf Courses
Habitat Restoration & Management Areas
Highways
Industrial Plant Sites
Lumberyards
Natural Areas
Parking Areas
Parks
Petroleum Tank Farms
Pipeline, Power, Telephone & Utility Rights-of-Way

Pumping Installations
Railroads
Roadsides
Schools
Storage Areas
Similar Industrial and Non-crop Sites

8.2 Cut Stump Application

Cut stump treatments may be made on any site listed on this label. This product will control 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 50 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.

When used according to directions for cut stump application, this product will CONTROL, PARTIALLY CONTROL or SUPPRESS most woody brush and tree species, some of which are listed below:

Alder <i>Ainus spp.</i>	Poplar* <i>Populus spp.</i>
Coyote brush* <i>Baccharis consanguinea</i>	Reed, giant <i>Arundo donax</i>
Dogwood* <i>Cornus spp.</i>	Salt cedar <i>Tamarix spp.</i>
Eucalyptus <i>Eucalyptus spp.</i>	Sweet gum* <i>Liquidambar styraciflua</i>
Hickory* <i>Carya spp.</i>	Sycamore* <i>Platanus occidentalis</i>
Madrone <i>Arbutus menziesii</i>	Tan oak <i>Lithocarpus densiflorus</i>
Maple* <i>Acer spp.</i>	Willow <i>Salix spp.*</i>
Oak <i>Quercus spp.</i>	

*This product is not approved for this use on these species in the State of California.

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 IS LIKELY TO OCCUR IN ADJACENT WOODY BRUSH OR TREES.

8.3 Habitat Restoration and Management

This product is recommended for the restoration and/or maintenance of native habitat and in wildlife management areas.

Habitat Restoration and Management

This product may be used to control exotic, alien and other undesirable vegetation in habitat management and natural areas, including riparian and estuarine areas, 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 management and enhancement.

Wildlife Food Plots

This product may be used as a site preparation treatment prior to planting wildlife food plots. Any wildlife food species, including natives, 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 to allow translocation into underground plant parts.

8.4 Injection and Frill Applications

Woody vegetation may be controlled by injection or frill application of this product. Apply this product using suitable equipment which must penetrate into living tissue. Apply the equivalent of 1 ml of this product per 2 to 3 inches of trunk diameter. This is best achieved by applying 25 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 dilute material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frill or cut areas in species that exude sap freely after frills or cutting. In species such as these, make frill or cut at an oblique angle so as to produce a cupping effect and use undiluted material. For best results, applications should be made during periods of active growth and full leaf expansion.

This treatment WILL CONTROL the following woody species:

Oak <i>Quercus spp.</i>	Sweet gum <i>Liquidambar styraciflua</i>
Poplar <i>Populus spp.</i>	Sycamore <i>Platanus occidentalis</i>

This treatment WILL SUPPRESS the following woody species:

Black gum* <i>Nyssa sylvatica</i>	Hickory <i>Carya spp.</i>
Dogwood <i>Cornus spp.</i>	Maple, red <i>Acer rubrum</i>

DO NOT MAKE INJECTION OR FRILL APPLICATIONS WHEN THE ROOTS OF DESIRABLE WOODY BRUSH OR TREES MAY BE GRAFTED TO THE ROOTS OF THE TREATED TREES. INJURY RESULTING FROM ROOT GRAFTING IS LIKELY TO OCCUR IN ADJACENT WOODY BRUSH OR TREES.

*This product is not approved for this use on this species in the State of California.

8.5 Roadsides

RELEASE OF DORMANT BERMUDAGRASS AND BAHIAGRASS

When applied as directed, this product will provide control or suppression of many winter annual weeds and tall fescue for effective release of dormant Bermudagrass or bahiagrass. Make applications to dormant Bermudagrass or bahiagrass.

For best results on winter annuals, treat when weeds 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 in or beyond the 4- to 6-leaf stage.

WEEDS CONTROLLED

Rate recommendations for control or suppression of winter annuals and tall fescue are listed below.

Apply the recommended rates of this product in 10 to 25 gallons of water per acre plus 2 quarts nonionic surfactant per 100 gallons of total spray volume.

WEEDS CONTROLLED OR SUPPRESSED*

NOTE: C = Control
S = Suppression

WEED SPECIES	AQUAMASTER FLUID OZ/ACRE					
	6	9	12	18	24	48
Barley, little <i>Hordeum pusillum</i>	S	C	C	C	C	C
Bedstraw, catchweed <i>Galium aparine</i>	S	C	C	C	C	C
Bluegrass, annual <i>Poa annua</i>	S	C	C	C	C	C
Chervil <i>Chaerophyllum tainturieri</i>	S	C	C	C	C	C
Chickweed, common <i>Stellaria media</i>	S	C	C	C	C	C
Clover, crimson <i>Trifolium incarnatum</i>	•	S	S	C	C	C
Clover, large hop <i>Trifolium campestre</i>	•	S	S	C	C	C
Speedwell, corn <i>Veronica arvensis</i>	S	C	C	C	C	C
Fescue, tall <i>Festuca arundinacea</i>	•	•	•	•	S	S
Geranium, Carolina <i>Geranium carolinianum</i>	•	•	S	S	C	C
Henbit <i>Lamium amplexicaule</i>	•	S	C	C	C	C
Ryegrass, Italian <i>Lolium multiflorum</i>	•	•	S	C	C	C
Vetch, common <i>Vicia sativa</i>	•	•	S	C	C	C

*These rates apply only to sites where an established competitive turf is present.

RELEASE OF ACTIVELY GROWING BERMUDAGRASS

NOTE: USE ONLY ON SITES WHERE BAHIAGRASS OR BERMUDAGRASS ARE DESIRED FOR GROUND COVER AND SOME TEMPORARY INJURY OR YELLOWING OF THE GRASSES CAN BE TOLERATED.

When applied as directed, this product will aid in the release of Bermudagrass by providing control of annual species listed in the "WEEDS CONTROLLED" section in this label, and suppression or partial control of certain perennial weeds.

For control or suppression of those annual species listed in this label, use 3/4 to 2 1/4 pints of this product as a broadcast spray in 10 to 25 gallons of spray solution per acre, plus 2 quarts of a nonionic surfactant per 100 gallons of total spray volume. Use the lower rate when treating annual weeds below 6 inches in height (or length of runner in annual vines). Use the higher rate as size of plants increases or as they approach flower or seedhead formation.

Use the higher rate for partial control or longer-term suppression of the following perennial species. Use lower rates for shorter-term suppression of growth.

Bahiagrass	Johnsongrass**
Dallisgrass	Trumpet creeper*
Fescue (tall)	Vaseygrass

*Suppression at the higher rate only.

**Johnsongrass is controlled at the higher rate.

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 recommended, since severe injury may result.

BAHIAGRASS SEEDHEAD AND VEGETATIVE SUPPRESSION

When applied as directed in the "NONCROP SITES" section in this label, this product will provide significant inhibition of seedhead emergence and will suppress vegetative growth for a period of approximately 45 days with single applications and approximately 120 days with sequential applications.

Apply this product 1 to 2 weeks after full green-up of bahiagrass or after the bahiagrass has been mowed to a uniform height of 3 to 4 inches. Applications must be made prior to seedhead emergence. Apply 5 fluid ounces per acre of this product, plus 2 quarts of an approved nonionic surfactant per 100 gallons of total spray volume in 10 to 25 gallons of water per acre.

Sequential applications of this product plus nonionic surfactant may be made at approximately 45-day intervals to extend the period of seedhead and vegetative growth suppression. For continued vegetative growth suppression, sequential applications must be made prior to seedhead emergence.

Apply no more than 2 sequential applications per year. As a first sequential application, apply 3 fluid ounces of this product per acre plus nonionic surfactant. A second sequential application of 2 to 3 fluid ounces per acre plus nonionic surfactant may be made approximately 45 days after the last application.

ANNUAL GRASS GROWTH SUPPRESSION

For growth suppression of some annual grasses, such as annual ryegrass, wild barley and wild oats growing in coarse turf on roadsides or other industrial areas, apply 3 to 4 ounces of this product in 10 to 40 gallons of spray solution per acre. Mix 2 quarts of a nonionic surfactant per 100 gallons of spray solution. Applications should be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments made after seedhead emergence may cause injury to the desired grasses.

9.0 WEEDS CONTROLLED

9.1 Annual Weeds

Apply to actively growing annual grasses and broadleaf weeds.

Allow at least 3 days after application before disturbing treated vegetation. After this period the weeds may be mowed, tilled or burned. See "DIRECTIONS FOR USE", "GENERAL INFORMATION" and "MIXING AND APPLICATION INSTRUCTIONS" for labeled uses and specific application instructions.

Broadcast Application—Use 1 1/2 pints of this product per acre plus 2 or more quarts of a nonionic surfactant per 100 gallons of spray solution if weeds are less than 6 inches tall. If weeds are greater than 6 inches tall, use 2 1/2 pints of this product per acre plus 2 or more quarts of an approved nonionic surfactant per 100 gallons of spray solution.

Hand-Held, High-Volume Application—Use a 3/4 to 1 1/2 percent solution of this product in water plus 2 or more quarts of a nonionic surfactant per 100 gallons of spray solution and apply to foliage of vegetation

to be controlled. Use the higher rate for tough-to-control species or for weeds over 24 inches tall.

When applied as directed under the conditions described in this label, this product plus nonionic surfactant WILL CONTROL the following ANNUAL WEEDS:

Balsamapple** <i>Momordica charantia</i>	Mustard, tansy <i>Descurainia pinnata</i>
Barley <i>Hordeum vulgare</i>	Mustard, tumble <i>Sisymbrium altissimum</i>
Barnyardgrass <i>Echinochloa crus-galli</i>	Mustard, wild <i>Sinapis arvensis</i>
Bassia, fivehook <i>Bassia hyssopifolia</i>	Oats, wild <i>Avena fatua</i>
Bluegrass, annual <i>Poa annua</i>	Panicum <i>Panicum spp.</i>
Bluegrass, bulbous <i>Poa bulbosa</i>	Pennycress, field <i>Thlaspi arvense</i>
Brome <i>Bromus spp.</i>	Pigweed, redroot <i>Amaranthus retroflexus</i>
Buttercup <i>Ranunculus spp.</i>	Pigweed, smooth <i>Amaranthus hybridus</i>
Cheat <i>Bromus secalinus</i>	Puncturevine <i>Tribulus terrestris</i>
Cheeseweed <i>Malva parviflora</i>	Ragweed, common <i>Ambrosia artemisiifolia</i>
Chickweed, mouseear <i>Cerastium vulgatum</i>	Ragweed, giant <i>Ambrosia trifida</i>
Cocklebur <i>Xanthium strumarium</i>	Rocket, London <i>Sisymbrium irio</i>
Corn, volunteer <i>Zea mays</i>	Rye <i>Secale cereale</i>
Crabgrass <i>Digitaria spp.</i>	Ryegrass, Italian* <i>Lolium multiflorum</i>
Dwarfdandelion <i>Krigia cespitosa</i>	Sandbur, field <i>Conchus spp.</i>
Faisellax, smallseed <i>Camelina microcarpa</i>	Shallercane <i>Sorghum bicolor</i>
Fiddleneck <i>Amsinckia spp.</i>	Shepherd's-purse <i>Capsella bursa-pastoris</i>
Flaxleaf fleabane <i>Conyza bonariensis</i>	Signalgrass, broadleaf <i>Brachiaria platyphylla</i>
Fleabane <i>Erigeron spp.</i>	Smartweed, Pennsylvania <i>Polygonum pennsylvanicum</i>
Foxtail <i>Setaria spp.</i>	Sowthistle, annual <i>Sonchus oleraceus</i>
Foxtail, Carolina <i>Alopecurus carolinianus</i>	Spanishneedles* <i>Bidens bipinnata</i>
Groundsel, common <i>Senecio vulgaris</i>	Stinkgrass <i>Eragrostis cilianensis</i>
Horseweed/Marestail <i>Conyza canadensis</i>	Sunflower <i>Helianthus annuus</i>
Kochia <i>Kochia scoparia</i>	Thistle, Russian <i>Salsola kali</i>
Lambsquarters, common <i>Chenopodium album</i>	Spurry, umbrella <i>Holosteum umbellatum</i>
Lettuce, prickly <i>Lactuca serriola</i>	Velvetleaf <i>Abutilon theophrasti</i>
Morningglory <i>Ipomoea spp.</i>	Wheat <i>Triticum aestivum</i>
Mustard, blue <i>Chorispora tenella</i>	Witchgrass <i>Panicum capillare</i>

*Apply 3 pints of this product per acre.

**Apply with hand-held equipment only.

Annual weeds will generally continue to germinate from seed throughout the growing season. Repeat treatments will be necessary to control later germinating weeds.

9.2 Perennial Weeds

Apply a 3/4 to 1 1/2 percent solution of this product to control or destroy most vigorously growing perennial weeds. Add 2 or more quarts of a nonionic surfactant per 100 gallons of spray solution to the rates of this product given in this list. See the "GENERAL INFORMATION," "DIRECTIONS FOR USE" and "MIXING AND APPLICATION" sections in this label for specific uses and application instructions.

Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment. When using hand-held equipment for low volume directed spot treatments, apply a 5 to 8 percent solution of this product.

Unless otherwise directed, allow at least 7 days after application before disturbing vegetation. If weeds have been mowed or killed, do not treat until regrowth has reached the recommended stages. Fall treatments must be applied before a killing frost.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seed.

When applied as recommended under the conditions described, this product plus surfactant WILL CONTROL the following PERENNIAL WEEDS:

Alfalfa <i>Medicago sativa</i>	Hemlock, poison <i>Conium maculatum</i>
Alligatorweed* <i>Alternanthera philoxeroides</i>	Horsenettle <i>Solanum carolinense</i>
Anise/Fennel <i>Foeniculum vulgare</i>	Horseradish <i>Armoracia rusticana</i>
Artichoke, Jerusalem <i>Helianthus tuberosus</i>	Ice Plant <i>Carprobrotus edulis</i>
Bahlagrass <i>Paspalum notatum</i>	Ivy, German, cape <i>Senecio nikanoides</i>
Beachgrass, European <i>Ammophila arenaria</i>	<i>Delairea odorata</i>
Bermudagrass <i>Cynodon dactylon</i>	Johnsongrass <i>Sorghum halepense</i>
Bindweed, field <i>Convolvulus arvensis</i>	Kikuyugrass <i>Pennisetum clandestinum</i>
Bluegrass, Kentucky <i>Poa pratensis</i>	Knapweed, Russian <i>Centaurea repens</i>
Bluweed, Texas <i>Helianthus ciliaris</i>	Lanlana <i>Lantana camara</i>
Brackenfern <i>Pteridium spp.</i>	Lespedeza: common, sericea <i>Lespedeza striata</i>
Bromegrass, smooth <i>Bromus inermis</i>	<i>Lespedeza cuneata</i>
Canarygrass, reed <i>Phalaris arundinacea</i>	Loosestrife, purple <i>Lythrum salicaria</i>
Cattail <i>Typha spp.</i>	Lotus, American <i>Nelumbo lutea</i>
Clover, red <i>Trifolium pratense</i>	Maldencane <i>Panicum hematomon</i>
Clover, white <i>Trifolium repens</i>	Milkweed <i>Asclepias spp.</i>
Cogongrass <i>Imperata cylindrica</i>	Muhly, wirestem <i>Muhlenbergia frondosa</i>
Cordgrass <i>Spartina spp.</i>	Mullein, common <i>Verbascum thapsus</i>
Cutgrass, giant* <i>Zizaniopsis miliacea</i>	Napiergrass <i>Pennisetum purpureum</i>
Dallisgrass <i>Paspalum dilatatum</i>	Nightshade, silverleaf <i>Solanum elaeagnifolium</i>
Dandelion <i>Taraxacum officinale</i>	Nutsedge: purple <i>Cyperus rotundus</i>
Dock, curly <i>Rumex crispus</i>	yellow <i>Cyperus esculentus</i>
Dogbane, hemp <i>Apocynum cannabinum</i>	Orchardgrass <i>Dactylis glomerata</i>
Fescue <i>Festuca spp.</i>	Pampasgrass <i>Cortaderia jubata</i>
Fescue, tall <i>Festuca arundinacea</i>	Paragrass <i>Brachiaria mutica</i>
Gulneagrass <i>Panicum maximum</i>	Pepperweed, perennial <i>Lepidium latifolium</i>
	Phragmites** <i>Phragmites spp.</i>

Quackgrass <i>Agropyron repens</i>	Timothy <i>Phleum pratense</i>
Reed, giant <i>Arundo donax</i>	Torpedograss* <i>Panicum repens</i>
Ryegrass, perennial <i>Lolium perenne</i>	Tules, common <i>Scirpus acutus</i>
Smartweed, swamp <i>Polygonum coccineum</i>	Vaseygrass <i>Paspalum urvillei</i>
Spatterdock <i>Nuphar luteum</i>	Velvetgrass <i>Holcus spp.</i>
Starthistle, yellow <i>Centaurea solstitialis</i>	Waterhyacinth <i>Eichornia crassipes</i>
Sweet potato, wild* <i>Ipomoea pandurata</i>	Waterlettuce <i>Pistia stratiotes</i>
Thistle, artichoke <i>Cynara cardunculus</i>	Waterprimrose <i>Ludwigia spp.</i>
Thistle, Canada <i>Cirsium arvense</i>	Wheatgrass, western <i>Agropyron smithii</i>

* Partial control.

** Partial control in southeastern states. See specific recommendations below.

Alligatorweed—Apply 6 pints of this product per acre as a broadcast spray or as a 1 1/4 percent solution with hand-held equipment to provide partial control of alligatorweed. Apply when most of the target plants are in bloom. Repeat applications will be required to maintain such control.

Bermudagrass—Apply 7 1/2 pints of this product per acre as a broadcast spray or as a 1 1/2 percent solution with hand-held equipment. Apply when target plants are actively growing and when seed heads appear.

Bindweed, field / Silverleaf Nightshade / Texas Blueweed—Apply 6 to 7 1/2 pints of this product per acre as a broadcast spray west of the Mississippi River and 4 1/2 to 6 pints of this product per acre east of the Mississippi River. With hand-held equipment, use a 1 1/2 percent solution. Apply when target plants are actively growing and are at or beyond full bloom. For silverleaf nightshade, best results can be obtained when application is made after berries are formed. Do not treat when weeds are under drought stress. New leaf development indicates active growth. For best results apply in late summer or fall.

Brackenfern—Apply 4 1/2 to 6 pints of this product per acre as a broadcast spray or as a 3/4 to 1 percent solution with hand-held equipment. Apply to fully expanded fronds which are at least 18 inches long.

Callall—Apply 4 1/2 to 6 pints of this product per acre as a broadcast spray or as a 3/4 percent solution with hand-held equipment. Apply when target plants are actively growing and are at or beyond the early-to-full bloom stage of growth. Best results are achieved when application is made during the summer or fall months.

Cogongrass—Apply 4 1/2 to 7 1/2 pints of this product per acre as a broadcast spray. Apply when cogongrass is at least 18 inches tall and actively growing in late summer or fall. Allow 7 or more days after application before tillage or mowing. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control.

Cordgrass—Apply 4 1/2 to 7 1/2 pints of this product per acre as a broadcast spray or as a 1 to 2 percent solution with hand-held equipment. Schedule applications in order to allow 6 hours before treated plants are covered by tidewater. The presence of debris and silt on the cordgrass plants will reduce performance. It may be necessary to wash targeted plants prior to application to improve uptake of this product into the plant.

Cutgrass, giant—Apply 6 pints of this product per acre as a broadcast spray or as a 1 percent solution with hand-held equipment to provide partial control of giant cutgrass. Repeat applications will be required to maintain such control, especially where vegetation is partially submerged in water. Allow for substantial regrowth to the 7- to 10-leaf stage prior to retreatment.

Dogbane, hemp / Knapweed / Horseradish—Apply 6 pints of this product per acre as a broadcast spray or as a 1 1/2 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth. For best results, apply in late summer or fall.

Fescue, tall—Apply 4 1/2 pints of this product per acre as a broadcast spray or as a 1 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the boot-to-head stage of growth. When applied prior to the boot stage, less desirable control may be obtained.

Guineagrass—Apply 4 1/2 pints of this product per acre as a broadcast spray or as a 3/4 percent solution with hand-held equipment. Apply when

target plants are actively growing and when most have reached at least the 7-leaf stage of growth.

Johnsongrass / Bluegrass, Kentucky / Bromegrass, smooth / Canarygrass, reed / Orchardgrass / Ryegrass, perennial / Timothy / Wheatgrass, western—Apply 3 to 4 1/2 pints of this product per acre as a broadcast spray or as a 3/4 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the boot-to-head stage of growth. When applied prior to the boot stage, less desirable control may be obtained. In the fall, apply before plants have turned brown.

Lantana—Apply this product as a 3/4 to 1 percent solution with hand-held equipment. Apply to actively growing lantana at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth.

Loosestrife, purple—Apply 4 pints of this product per acre as a broadcast spray or as a 1 to 1 1/2 percent solution using hand-held equipment. Treat when plants are actively growing at or beyond the bloom stage of growth. Best results are achieved when application is made during summer or fall months. Fall treatments must be applied before a killing frost.

Lotus, American—Apply 4 pints of this product per acre as a broadcast spray or as a 3/4 percent solution with hand-held equipment. Treat when plants are actively growing at or beyond the bloom stage of growth. Best results are achieved when application is made during summer or fall months. Fall treatments must be applied before a killing frost. Repeat treatment may be necessary to control regrowth from underground parts and seeds.

Maldenecane / Paragrass—Apply 6 pints of this product per acre as a broadcast spray or as a 3/4 percent solution with hand-held equipment. Repeat treatments will be required, especially to vegetation partially submerged in water. Under these conditions, allow for regrowth to the 7- to 10-leaf stage prior to retreatment.

Milkweed, common—Apply 4 1/2 pints of this product per acre as a broadcast spray or as a 1 1/2 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth.

Nutsedge, purple, yellow—Apply 4 1/2 pints of this product per acre as a broadcast spray, or as a 3/4 percent solution with hand-held equipment to control existing nutsedge plants and immature nutlets attached to treated plants. Apply when target 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.

Pampasgrass—Apply a 1 1/2 percent solution of this product with hand-held equipment when plants are actively growing.

Phragmites—For partial control of phragmites in Florida and the counties of other states bordering the Gulf of Mexico, apply 7 1/2 pints per acre as a broadcast spray or apply a 1 1/2 percent solution with hand-held equipment. In other areas of the U.S., apply 4 to 6 pints per acre as a broadcast spray or apply a 3/4 percent solution with hand-held equipment for partial control. For best results, treat during late summer of fall months when plants are actively growing and in full bloom. Due to the dense nature of the vegetation, which may prevent good spray coverage and uneven stages of growth, repeat treatments may be necessary to maintain control. Visual control symptoms will be slow to develop.

Quackgrass / Kikuyugrass / Muhly, wirestem—Apply 3 to 4 1/2 pints of this product per acre as a broadcast spray or as a 3/4 percent solution with hand-held equipment when most quackgrass or wirestem muhly is at least 8 inches in height (3- to 4-leaf stage of growth) and actively growing. Allow 3 or more days after application before tillage.

Reed, giant / Ice Plant—For control of giant reed and ice plant, apply a 1 1/2 percent solution of this product with hand-held equipment when plants are actively growing. For giant reed, best results are obtained when applications are made in late summer to fall.

Spatterdock—Apply 6 pints of this product per acre as a broadcast spray or as a 3/4 percent solution with hand-held equipment. Apply when most plants are in full bloom. For best results, apply during the summer or fall months.

Sweet potato, wild—Apply this product as a 1 1/2 percent solution using hand-held equipment. Apply to actively growing weeds that are at or beyond the bloom stage of growth. Repeat applications will be required. Allow the plant to reach the recommended stage of growth before retreatment.

Thistle: Canada, artichoke—Apply 3 to 4 1/2 pints of this product per acre as a broadcast spray or as a 1 1/2 percent solution with hand-held equipment for Canada thistle. To control artichoke thistle, apply a 2 percent solution as a spray-to-wet application. Apply when target plants are actively growing and are at or beyond the bud stage of growth.

Torpedograss—Apply 6 to 7 1/2 pints of this product per acre as a broadcast spray or as a 3/4 to 1 1/2 percent solution with hand-held equipment to provide partial control of torpedograss. Use the lower rates under terrestrial conditions, and the higher rates under partially submerged or a floating mat condition. Repeat treatments will be required to maintain such control.

Tules, common—Apply this product as a 1 1/2 percent solution with hand-held equipment. Apply to actively growing plants at or beyond the seedhead stage of growth. After application, visual symptoms will be slow to appear and may not occur for 3 or more weeks.

Waterhyacinth—Apply 5 to 6 pints of this product per acre as a broadcast spray or apply a 3/4 to 1 percent solution with hand-held equipment. Apply when target plants are actively growing and at or beyond the early bloom stage of growth. After application, visual symptoms may require 3 or more weeks to appear with complete necrosis and decomposition usually occurring within 60 to 90 days. Use the higher rates when more rapid visual effects are desired.

Waterlettuce—For control, apply a 3/4 to 1 percent solution of this product with hand-held equipment to actively growing plants. Use higher rates where infestations are heavy. Best results are obtained from mid-summer through winter applications. Spring applications may require retreatment.

Waterprimrose—Apply this product as a 3/4 percent solution using hand-held equipment. Apply to plants that are actively growing at or beyond the bloom stage of growth, but before fall color changes occur. Thorough coverage is necessary for best control.

Other perennials listed on this label—Apply 4 1/2 to 7 1/2 pints of this product per acre as a broadcast spray or as a 3/4 to 1 1/2 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached early head or early bud stage of growth.

9.3 Woody Brush and Trees

Apply a 1 to 2 percent solution of this product to control or partially control the woody brush and tree species listed below. Add 2 or more quarts of a nonionic surfactant per 100 gallons of spray solution to the rates of this product given in this list. See the "GENERAL INFORMATION", "DIRECTIONS FOR USE" and "MIXING AND APPLICATION" sections in this label for specific uses and application instructions.

Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment. When using hand-held equipment for low volume directed spot treatments, apply a 5 to 8 percent solution of this product.

When applied as recommended under the conditions described, this product plus surfactant CONTROLS or PARTIALLY CONTROLS the following woody brush plants and trees:

Alder <i>Alnus spp.</i>	Black <i>Prunus serotina</i>
Ash* <i>Fraxinus spp.</i>	Pin <i>Prunus pensylvanica</i>
Aspen, quaking <i>Populus tremuloides</i>	Cottonwood, eastern <i>Populus deltoides</i>
Bearclover, Bearmat <i>Chamaebatia foliolosa</i>	Coyote brush <i>Baccharis consanguinea</i>
Birch <i>Betula spp.</i>	Creepers, Virginia* <i>Parthenocissus quinquefolia</i>
Blackberry <i>Rubus spp.</i>	Cypress, swamp, bald <i>Taxodium distichum</i>
Broom:	Deerweed <i>Lotus scoparius</i>
French <i>Cytisus monspessulanus</i>	Dewberry <i>Rubus trivialis</i>
Scotch <i>Cytisus scoparius</i>	Dogwood <i>Cornus spp.</i>
Buckwheat, California* <i>Eriogonum fasciculatum</i>	Elderberry <i>Sambucus spp.</i>
Cascara* <i>Rhamnus purshiana</i>	Elm* <i>Ulmus spp.</i>
Castor bean <i>Ricinus communis</i>	Eucalyptus, bluegum <i>Eucalyptus globulus</i>
Catsclaw* <i>Acacia greggi</i>	Gallberry <i>Ilex glabra</i>
Ceanothus <i>Ceanothus spp.</i>	Hackberry, western <i>Celtis occidentalis</i>
Chamise <i>Adenostoma fasciculatum</i>	
Cherry:	
Bitter <i>Prunus emarginata</i>	

Hasardia* <i>Haplopappus squamosus</i>	Raspberry <i>Rubus spp.</i>
Hawthorn <i>Crataegus spp.</i>	Redbud, eastern <i>Cercis canadensis</i>
Hazel <i>Corylus spp.</i>	Redcedar, eastern <i>Juniperus virginiana</i>
Hickory <i>Carya spp.</i>	Rose, multiflora <i>Rosa multiflora</i>
Honeysuckle <i>Lonicera spp.</i>	Russian-olive <i>Elaeagnus angustifolia</i>
Hornbeam, American <i>Carpinus caroliniana</i>	Sage: black, white <i>Salvia spp.</i>
Huckleberry <i>Vaccinium spp.</i>	Sagebrush, California <i>Artemisia californica</i>
Kudzu <i>Pueraria lobata</i>	Salmonberry <i>Rubus spectabilis</i>
Locust, black* <i>Robinia pseudoacacia</i>	Saltcedar, tamarisk* <i>Tamarix spp.</i>
Magnolia, sweetbay <i>Magnolia virginiana</i>	Saltbush, Sea myrtle <i>Baccharis halimifolia</i>
Manzanita <i>Arctostaphylos spp.</i>	Sassafras <i>Sassafras albidum</i>
Maple:	Sourwood* <i>Oxydendrum arboreum</i>
Red** <i>Acer rubrum</i>	Sumac:
Sugar <i>Acer saccharum</i>	Laurel* <i>Rhus toxicodendron</i>
Vine* <i>Acer circinatum</i>	Poison* <i>Rhus vernix</i>
Monkey Flower* <i>Minulus guttatus</i>	Smooth* <i>Rhus glabra</i>
Oak:	Sugarbush* <i>Rhus ovata</i>
Black* <i>Quercus velutina</i>	Winged* <i>Rhus copallina</i>
Northern pine <i>Quercus palustris</i>	Sweet gum <i>Liquidambar styraciflua</i>
Post <i>Quercus stellata</i>	Swordfern* <i>Polystichum munitum</i>
Red <i>Quercus rubra</i>	Tallowtree, Chinese <i>Sapium sebiferum</i>
Southern red <i>Quercus falcata</i>	Thimbleberry <i>Rubus parviflorus</i>
White* <i>Quercus alba</i>	Tobacco, tree* <i>Nicotiana glauca</i>
Orange, Osage <i>Maclura pomifera</i>	Toyon* <i>Heteromeles arbutifolia</i>
Peppertree, Brazilian— (Florida Holly) <i>Schinus terebinthifolius</i>	Trumpet creeper <i>Campsis radicans</i>
Persimmon* <i>Diospyros spp.</i>	Waxmyrtle, southern* <i>Myrica cerifera</i>
Poison Ivy <i>Rhus radicans</i>	Willow <i>Salix spp.</i>
Poison Oak <i>Rhus toxicodendron</i>	Yerbasanta, California <i>Eriodictyon californicum</i>
Poplar, yellow* <i>Liriodendron tulipifera</i>	
Prunus <i>Prunus spp.</i>	

*Partial control

**See below for control or partial control instruction.

NOTE: If brush has been mowed or tilled or trees have been cut, do not treat until regrowth has reached the recommended stage of growth.

Apply the recommended rate of this product plus 2 or more quarts of a nonionic surfactant per 100 gallons of spray solution when plants are actively growing and, unless otherwise directed, after full-leaf expansion. 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 application is made in the spring or 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.

See the "DIRECTIONS FOR USE" and "MIXING AND APPLICATION INSTRUCTIONS" sections in this label for labeled use and specific application instructions.

Applied as a 5 to 8 percent solution as a directed application as described in the "HAND-HELD AND HIGH-VOLUME EQUIPMENT" section, this product will control or partially control all species listed in this section of this label. Use the higher rate of application for dense stands and larger woody brush and trees.

Apply the product as follows to control or partially control the following woody brush and trees.

Alder / Blackberry / Dewberry / Honeysuckle / Oak, Post / Raspberry—For control, apply 4 1/2 to 6 pints per acre as a broadcast spray or as a 3/4 to 1 1/4 percent solution with hand-held equipment.

Aspen, Quaking / Hawthorn / Trumpet creeper—For control, apply 3 to 4 1/4 pints of this product per acre as a broadcast spray or as a 3/4 to 1 1/4 percent solution with hand-held equipment.

Birch / Elderberry / Hazel / Salmonberry / Thimbleberry—For control, apply 3 pints per acre of this product as a broadcast spray or as a 3/4 percent solution with hand-held equipment.

Broom: French, Scotch—For control, apply a 1 1/4 to 1 1/2 percent solution with hand-held equipment.

Buckwheat, California / Hasardia / Monkey Flower / Tobacco, Tree—For partial control of these species, apply a 3/4 to 1 1/2 percent solution of this product as a foliar spray with hand-held equipment. Thorough coverage of foliage is necessary for best results.

Castorbean—For control, apply a 1 1/2 percent solution of this product with hand-held equipment.

Catsclaw—For partial control, apply a 1 1/4 to 1 1/2 percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed.

Cherry: Bitter, Black, Pin / Oak, Southern Red / Sweet Gum / Prunus—For control, apply 3 to 7 1/2 pints of this product per acre as a broadcast spray or as a 1 to 1 1/2 percent solution with hand-held equipment.

Coyote brush—For control, apply a 1 1/4 to 1 1/2 percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed.

Dogwood / Hickory / Salt cedar—For partial control, apply a 1 to 2 percent solution of this product with hand-held equipment or 6 to 7 1/2 pints per acre as a broadcast spray.

Eucalyptus, bluegum—For control of eucalyptus resprouts, apply a 1 1/2 percent solution of this product with hand-held equipment when resprouts are 6- to 12-foot tall. Ensure complete coverage. Apply when plants are actively growing. Avoid application to drought-stressed plants.

Kudzu—For control, apply 6 pints of this product per acre as a broadcast spray or as a 1 1/2 percent solution with hand-held equipment. Repeat applications will be required to maintain control.

Maple, Red—For control, apply as a 3/4 to 1 1/4 percent solution with hand-held equipment when leaves are fully developed. For partial control, apply 2 to 7 1/2 pints of this product per acre as a broadcast spray.

Maple, Sugar / Oak: Northern Pin, Red—For control, apply as a 3/4 to 1 1/4 percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed.

Peppertree, Brazilian—(Holly, Florida) / Waxmyrtle, southern—For partial control, apply this product as a 1 1/2 percent solution with hand-held equipment.

Poison Ivy / Poison Oak—For control, apply 6 to 7 1/2 pints of this product per acre as a broadcast spray or as a 1 1/2 percent solution with hand-held equipment. Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color.

Rose, multiflora—For control, apply 3 pints of this product per acre as a broadcast spray or as a 3/4 percent solution with hand-held equipment. Treatments should be made prior to leaf deterioration by leaf-feeding insects.

Sage, black / Sagebrush, California / Chamise / Tallowtree, Chinese—For control of these species, apply a 3/4 percent solution of this product as a foliar spray with hand-held equipment. Thorough coverage of foliage is necessary for best results.

Saltbush, Sea myrtle—For control, apply this product as a 1 percent solution with hand-held equipment.

Willow—For control, apply 4 1/2 pints of this product per acre as a broadcast spray or as a 3/4 percent solution with hand-held equipment.

Other woody brush and trees listed in this label—For partial control, apply 3 to 7 1/2 pints of this product per acre as a broadcast spray or as a 3/4 to 1 1/2 percent solution with hand-held equipment.

10.0 LIMIT OF WARRANTY AND LIABILITY

Monsanto Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

This Company does not warrant any product reformulated or repackaged from this product except in accordance with this Company's stewardship requirements and with express written permission of this Company.

THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

Upon opening and using this product, buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement. If terms are not acceptable, return at once unopened.

AquaMaster and Monsanto and the Vine symbol are trademarks of Monsanto Technology LLC.

EPA Reg. No. 524-343

In case of an emergency involving this product,
or for medical assistance,
Call Collect, day or night, (314) 694-4000.

©2004 MONSANTO COMPANY
ST. LOUIS, MISSOURI, 63167 U.S.A.

MONSANTO



Exhibit B

Compensation

Base Scope of Work

\$71,315

Additional Scope of Work

(a)	Subsequent Application of Herbicides from Levee Banks and Boats. Includes pesticide recommendation and postings.	\$.068 per square foot of treated area. Not to Exceed \$9,200
(b)	Permit Application for 5 year California Department of Fish & Game Lake/Streambed Alteration Permit (includes payment of 5 years of annual permit application fees for routine/essential maintenance), Pesticide Recommendation, Posting of Herbicide Application, and Notification of Neighboring Property Owners. Neighboring property owner addresses to be provided by City.	\$8,800
(c)	Bird and Wildlife Survey - if required.	Time and Materials plus 15% Not to exceed \$9,000
(d)	Daily Maintenance of Vegetation Control Booms beyond the two week period described in the Base Scope of Work including Boat/Aquatic Weed Harvester, Labor, and Offsite Disposal	\$3,850 per week

EXHIBIT "C" INSURANCE REQUIREMENTS

CONSULTANT shall procure and maintain for the duration of the Agreement insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work by CONSULTANT, its agents, representatives, or employees.

Minimum Scope and Limits of Insurance

CONSULTANT shall maintain limits no less than:

1. **Commercial General Liability**: \$1,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit. ISO Occurrence Form CG 0001 is required.
2. **Automobile Liability**: \$1,000,000 per accident for bodily injury and property damage. ISO Form CA 0001 is required.
3. **Workers' Compensation** and **Employer's Liability**: \$1,000,000 per accident for bodily injury or disease.
4. **Errors and Omissions** Liability Insurance appropriate to CONSULTANT's profession: \$1,000,000 per occurrence.

Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared and approved by CITY. CONSULTANT shall guarantee payment of any losses and related investigations, claim administration and defense expenses within the deductible or self-insured retention.

Other Insurance Provisions

The **general liability** and **automobile liability** policies are to contain, or be endorsed to contain, the following provisions:

1. CITY, its officials, employees, agents and volunteers are to be covered as additional insureds with respect to liability arising out of activities performed by or on behalf of CONSULTANT; products and completed operations of CONSULTANT; premises owned, occupied or used by CONSULTANT; or automobiles owned, leased, hired or borrowed by CONSULTANT. The coverage shall contain no special limitations on the scope of protection afforded to CITY, its officers, employees, agents or volunteers, except as follows: Coverage shall not extend to any indemnity coverage for the active negligence of the additional insured in any case where an agreement to indemnify the additional insured would be invalid under Subdivision (b) of section 2782 of the Civil Code.
2. For any claims related to this project, CONSULTANT's insurance shall be primary. Any insurance or self-insurance maintained by CITY, its officers, officials, employees, agents and volunteers shall be excess of CONSULTANT's insurance and shall not contribute with it.

3. Any failure to comply with reporting or other provisions of the policies including breaches of warranties shall not affect coverage provided to CITY, its officers, officials, employees, agents or volunteers.
4. CONSULTANT's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
5. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, cancelled by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to CITY.

Acceptability of Insurers

Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII, unless otherwise acceptable to CITY.

Verification of Coverage

CONSULTANT shall furnish to CITY original Certificate(s) of Insurance and endorsements effecting the coverage required. The Certificate(s) shall be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements are to be received and approved by CITY prior to commencement of work.