



Safety Data Sheet

Tradewind™ Herbicide

1. IDENTIFICATION: CHEMICAL PRODUCT AND COMPANY

PRODUCT NAME: Tradewind™ Herbicide
EPA REGISTRATION NUMBER: 59639-165
VC NUMBER(S): VC 1177
SYNONYM(S): Bispyribac 80 SP
PRODUCT DESCRIPTION: Aquatic Herbicide
Tradewind is a trademark of Valent U.S.A. Corporation.

MANUFACTURER/DISTRIBUTOR
VALENT U.S.A. CORPORATION
P.O. Box 8025
1600 Riviera Avenue, Suite 200
Walnut Creek, CA 94596-8025

EMERGENCY TELEPHONE NUMBERS
HEALTH EMERGENCY OR SPILL (24 hr):
(800) 892-0099
TRANSPORTATION (24 hr.): CHEMTREC
(800) 424-9300 or (202) 483-7616

PRODUCT INFORMATION
AGRICULTURAL PRODUCTS: (800) 682-5368

The current SDS is available through our website (www.valent.com), or by calling the product information numbers listed above.

2. HAZARDS IDENTIFICATION

For EPA FIFRA-specific information see Section 15

Classification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS).

Label elements

EMERGENCY OVERVIEW

Precautionary Statements - Prevention

Read product label prior to using this product. For specific handling instruction refer to Section 7, Handling and Storage

Precautionary Statements - Response

See Section 4, First Aid Measures

Emergency Telephone: (800) 892-0099
REVISION NUMBER: 1

SDS NO.: 0384
REVISION DATE: 05/14/2015

Precautionary Statements - Storage

For information on Storage and Handling see Section 7.

Precautionary Statements - Disposal

For further information on product and container disposal see Section 13.

Hazards not otherwise classified (HNOC)**Other Information**

25% of the mixture consists of ingredient(s) of unknown toxicity

For information on Transportation requirements see Section 14.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Weight/ Percent	TRADE SECRET
Bispyribac-sodium	125401-92-5	77 - 83	
Others (including particulates not otherwise classified)	No CAS#	17 - 23	

Other ingredients, which may be maintained as trade secrets, are any substances other than an active ingredient contained in this product. Some of these may be hazardous, but their identities are withheld because they are considered trade secrets. The hazards associated with the other ingredients are addressed in this document. Specific information on other ingredients for the management of exposures, spills, or safety assessments can be obtained by a treating physician or nurse by calling **(800) 892-0099** at any time.

4. FIRST AID MEASURES

EMERGENCY NUMBER (800) 892-0099

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact **1-800-892-0099** for emergency medical treatment information.

EYE CONTACT:

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

SKIN CONTACT:

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

INGESTION:

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

INHALATION:

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

NOTES TO PHYSICIAN:

None

5. FIRE FIGHTING MEASURES

FLASH POINT: Not applicable
Flash point °F Not applicable
FLAMMABLE LIMITS IN AIR - LOWER (%): Not applicable
FLAMMABLE LIMITS IN AIR - UPPER (%): Not applicable

NFPA RATING:
 Health: 1
 Flammability: 1
 Reactivity: 0
 Special: None

(Least-0, Slight-1, Moderate-2, High-3, Extreme-4). These values are obtained using professional judgement. Values were not available in the guidelines or published evaluations prepared by the National Fire Protection Association, NFPA.

FIRE FIGHTING INSTRUCTIONS: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH approved (or equivalent) and full protective gear.

HAZARDOUS DECOMPOSITION PRODUCTS: None expected

6. ACCIDENTAL RELEASE MEASURES

VALENT EMERGENCY PHONE NUMBER: (800) 892-0099
CHEMTREC EMERGENCY PHONE NUMBER: (800) 424-9300
OBSERVE PRECAUTIONS IN SECTION 8: PERSONAL PROTECTION

Stop the source of the spill if safe to do so. Contain the spill to prevent further contamination of the soil, surface water, or ground water. For additional spill response information refer to the North American Emergency Response Guidebook.

UN/NA NUMBER: Not applicable **EMERGENCY RESPONSE GUIDEBOOK NO.:** Not applicable

FOR SPILLS ON LAND:

CONTAINMENT: Reduce airborne dust. Avoid runoff into storm sewers or other bodies of water.

CLEANUP: Clean up spill immediately. Vacuum or sweep up material and place in a chemical waste container. Wash area with soap and water. Pick up wash liquid with additional absorbent and place in a chemical waste container.

FOR SPILLS IN WATER:

CONTAINMENT: This material will disperse or dissolve in water. Stop the source of the release. Contain and isolate to prevent further release into soil, surface water and ground water.

CLEANUP: Clean up spill immediately. Absorb spill with inert material. Remove contaminated water for treatment or disposal.

7. HANDLING AND STORAGE

END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

HANDLING:

Do not put into food or drink containers. Do not dilute in food or drink containers.

STORAGE:

Keep out of reach of children. Store in a cool, dry place. Keep pesticide in original container only. Not for use or storage in or around the home. Do not contaminate water, food or feed by storage or disposal. Keep container closed when not in use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

EYES & FACE: Do not get this material in your eyes. Eye contact can be avoided by wearing protective eyewear.

RESPIRATORY PROTECTION: Use this material only in well ventilated areas. If ventilation is not adequate to keep airborne concentrations below recommended exposure standards, approved respiratory protection should be worn. Avoid breathing dust. Remove and wash contaminated clothing before use.

SKIN & HAND PROTECTION: Avoid contact with skin or clothing. Skin contact can be minimized by wearing protective clothing including gloves.

EXPOSURE LIMITS

Chemical Name	ACGIH Exposure Limits	OSHA Exposure Limits	Manufacturer's Exposure Limits
Bispyribac-sodium	None	None	None
Others (including particulates not otherwise classified)	None	None	None

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid	Odor	Odorless
Appearance	Powder	Odor threshold	No information available
Color	No information available		

<u>PROPERTIES</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	8.84	1% (w/v) dilution in water (@ 20° C)
Melting point/freezing point	223-224° C	
Boiling point/boiling range	No information available	
Flash point	Not applicable	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limits in Air		
Upper flammability limits	Not applicable	
Lower flammability limit	Not applicable	
Vapor pressure	No information available	
Vapor density	No information available	
Specific Gravity	No information available	
Water solubility	6.75 g/100 mL water (Technical)	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	

Decomposition temperature	No information available
Viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available
Density	No information available
Bulk density	15.6 lb/ft ³

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Extremes of temperature and direct sunlight.

Incompatible materials

None known based on information supplied.

Hazardous Decomposition Products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

The following information is for the formulated product.

Oral Toxicity LD ₅₀ (rats)	4,111 mg/kg (males); 2,635 mg/kg (females)	EPA Tox Category	III
Dermal Toxicity LD ₅₀ (rabbits, rats)	> 2,000 mg/kg	EPA Tox Category	III
Inhalation Toxicity LC ₅₀ (rats)	> 4.48 mg/L	EPA Tox Category	IV
Eye Irritation (rabbits)	Moderately irritating	EPA Tox Category	III
Skin Irritation (rabbits)	Non-irritating	EPA Tox Category	IV
Skin Sensitization (guinea pigs)	Non-sensitizer	EPA Tox Category	Not applicable

CARCINOGEN CLASSIFICATION

Chemical Name	IARC	OSHA - Select Carcinogens	NTP Carcinogen List
Bispyribac-sodium	Not listed	Not listed	Not listed

TOXICTY OF BISPYRIBAC-SODIUM TECHNICAL

SUBCHRONIC: Bispyribac-sodium technical was tested in rats at dose levels of 0, 100, 1000, 10000, and 20000 ppm for 13 weeks. The NOEL was 100 ppm (7.2 mg/kg/day) in males and 1000 ppm (79.9 mg/kg/day) in female rats. Effects observed at higher doses included histopathological changes in the liver, urinary bladder and the bile duct; increased serum GOT, GPT and ALP; and reduced body weight gain. Bispyribac-sodium technical was also tested in dogs for 13 weeks at doses of 0, 30, 100 and 600 mg/kg/day. The NOEL was 100 mg/kg/day. Vomiting, salivation and loose stools were observed in animals exposed to 600 mg/kg/day. Histopathological changes in the liver were also noted in males at 600 mg/kg/day.

CHRONIC/CARCINOGENICITY: Bispyribac-sodium technical was tested in rats for 2 years at doses of 0, 20, 200, 3500 and 7000 ppm in males and 0, 20, 200, 5000 and 10000 ppm in females. The NOEL was 20 ppm (male 1.1 mg/kg/day, female 1.4 mg/kg/day). Effects observed at higher doses included decreased body weight gain; changes in hematological and blood biochemistry values; and histopathological lesions of the liver and bile duct. No neoplastic lesions were observed. Bispyribac-sodium technical was tested in mice for 18 months at doses of 0, 10, 100, 2500 and 5000 ppm. The NOEL was 100 ppm (14.1 mg/kg/day) in males and 10 ppm (1.7 mg/kg/day) in females. Effects observed at higher doses included reduced body weight gain; decreased liver weight; increased kidney weight; and histopathological changes in the liver. No neoplastic lesions were observed. A 52-week chronic toxicity study of bispyribac-sodium technical was conducted in dogs at doses of 0, 10, 100 and 750 mg/kg/day. The NOEL was 10 mg/kg/day. Effects observed at higher doses included salivation, vomiting and loose stools; increased liver weight; and histopathological changes in the bile duct.

DEVELOPMENTAL TOXICITY: Bispyribac-sodium technical was tested in a developmental toxicity study with rabbits at doses of 0, 30, 100 and 300 mg/kg/day. The NOEL for maternal toxicity was 100 mg/kg/day; and for developmental toxicity the NOEL was 300 mg/kg/day. Maternal toxicity included one death and premature delivery and slight depression of body weight gain.

Bispyribac-sodium technical was tested in a developmental toxicity study in rats at dose levels of 0, 100, 300 and 1000 mg/kg/day. The maternal NOEL was 300 mg/kg/day and the developmental NOEL was 1000 mg/kg/day. The maternal toxicity observed at 1000 mg/kg/day consisted of anogenital staining.

REPRODUCTION: A two-generation rat reproduction study was conducted with bispyribac-sodium technical at doses of 0, 20, 1000 and 10000 ppm. The NOELs for systemic adult toxicity, offspring developmental parameters and reproductive toxicity were 20, 1000, and 10000 ppm, respectively. Systemic adult toxicity included decreased body weight gain and food consumption; increased liver weight; and histopathological changes in the liver and bile duct. The growth of the F1 and F2 offspring was inhibited at 10000 ppm.

MUTAGENICITY: Bispyribac-sodium technical was negative in the following assays: reverse mutation (Ames); CHO, chromosomal aberration (in vitro); unscheduled DNA synthesis; and micronucleus in mice (in vivo).

For a summary of the potential for adverse health effects from exposure to this product, refer to Section 2. For information regarding regulations pertaining to this product, refer to Section 15.

12. ECOLOGICAL INFORMATION

AVIAN TOXICITY:

Bispyribac-sodium technical is considered to be practically non-toxic to birds based on tests in the following avian species:

Oral LD ₅₀ , bobwhite quail:	greater than 2250 mg/kg
Dietary LC ₅₀ , bobwhite quail:	greater than 5620 ppm
Dietary LC ₅₀ , mallard duck:	greater than 5620 ppm

AQUATIC ORGANISM TOXICITY: Bispyribac-sodium technical is considered practically non-toxic to fish and aquatic invertebrates based on results in the following tests:

Bluegill sunfish 96 hr. LC ₅₀ :	greater than 100 ppm
Rainbow trout 96 hr. LC ₅₀ :	greater than 100 ppm
Daphnia magna 48 hr. LC ₅₀ :	greater than 100 ppm
Sheepshead minnow 96 hr. LC ₅₀ :	greater than 100 ppm
Mysid shrimp 96 hr. LC ₅₀ :	greater than 100 ppm
Oyster shell deposition 96 hr. EC ₅₀ :	greater than 100 ppm

OTHER NON-TARGET ORGANISM TOXICITY:

The acute contact LD₅₀ of Bispyribac-sodium was > 25 µg a.i./bee and the NOEL was 25 µg a.i./bee.

The LC₅₀ of bispyribac-sodium technical in earthworms is greater than 1000 ppm.

OTHER ENVIRONMENTAL INFORMATION:

This product is phytotoxic to some non-target plants. Follow use directions in order to minimize impacts to non-target vegetation. Do not apply to water except as specified on the label.

13. DISPOSAL CONSIDERATIONS

END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS.

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

CONTAINER DISPOSAL: Non-refillable outer bag. Do not reuse or refill the outer bag. Completely empty bag into application equipment. Offer bag for recycling if available. If recycling is not available, then dispose of empty bag in a sanitary landfill or by incinerations, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

DISPOSAL METHODS: Check government regulations and local authorities for approved disposal of this material. Dispose of in accordance with applicable laws and regulations.

14. TRANSPORTATION INFORMATION

DOT (ground) SHIPPING NAME: Not regulated for domestic ground transport by U.S. DOT

EMERGENCY RESPONSE

GUIDEBOOK NO.: Not applicable

ICAO/IATA SHIPPING NAME: UN 3077 Environmentally Hazardous Substance, Solid, N.O.S. (Bispyribac-sodium), 9, III, Marine Pollutant

REMARKS:

- Single or inner packaging less than 5 L (liquid) or 5 Kg net (solids) excepted from Dangerous Goods regulations – see IATA Special Provision A197
- For US shipping, Emergency Response Guidebook No. 171

IMDG SHIPPING NAME: UN 3077 Environmentally Hazardous Substance, Solid, N.O.S. (Bispyribac-sodium), 9, III, Marine Pollutant

REMARKS: Single or inner packaging less than 5 L (liquid) or 5 Kg net (solids) excepted from Dangerous Goods regulations – see IMDG 2.10.2.7US shipping, Emergency Response Guidebook No. 171

EMS NO.: F-A, S-F

15. REGULATORY INFORMATION

EPA-FIFRA LABEL INFORMATION THAT DIFFERS FROM OSHA-GHS REQUIREMENTS:

This material is a pesticide product registered by the EPA under FIFRA and is subject to certain labeling requirements under federal pesticide law. These requirements may differ from the classification criteria and hazard information required by OSHA GHS for safety data sheets, and for workplace labels of non-pesticide chemicals. The following is the hazard information as required on the FIFRA pesticide label:

EPA FIFRA SIGNAL WORD: CAUTION

- *Harmful if swallowed*
- *Harmful if absorbed through skin*
- *Causes moderate eye irritation*
- *Avoid contact with eyes, skin and clothing*
- *Avoid breathing dust or spray mist*
- *Keep out of reach of children.*

PESTICIDE REGULATIONS: All pesticides are governed under FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act). Therefore, the regulations presented below are pertinent only when handled outside of the normal use and applications of pesticides. This includes waste streams resulting from manufacturing/formulation facilities, spills or misuse of products, and storage of large quantities of products containing hazardous or extremely hazardous substances.

U.S. FEDERAL REGULATIONS: Ingredients in this product are reviewed against an inclusive list of federal regulations. Therefore, the user should consult appropriate authorities. The federal regulations reviewed include: Clean Water Act, SARA, CERCLA, RCRA, DOT, TSCA and OSHA. If no components or information is listed in the space below this paragraph, then none of the regulations reviewed are applicable.

SARA (311, 312):

Immediate Health:	Yes
Chronic Health:	No
Fire:	No
Sudden Pressure:	No
Reactivity:	No

STATE REGULATIONS: Each state may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list of all state regulations. Therefore, the user should consult state or local authorities. The state regulations reviewed include: California Proposition 65, California Directors List of Hazardous Substances, Massachusetts Right to Know, Michigan Critical Materials List, New Jersey Right to Know, Pennsylvania Right to Know, Rhode Island Right to Know and the Minnesota Hazardous Substance list. For Washington State Right to Know, see Section 8 for Exposure Limit information. For Louisiana Right to Know refer to SARA information listed under U.S. Regulations above. If no components or information is listed in the space below this paragraph, then none of the regulations reviewed are applicable.

For information regarding potential adverse health effects from exposure to this product, refer to Sections 2 and 11.

Emergency Telephone: (800) 892-0099
REVISION NUMBER: 1

SDS NO.: 0384
REVISION DATE: 05/14/2015

16. OTHER INFORMATION

REASON FOR ISSUE: Updated information to meet OSHA Hazcom 2012 (GHS) regulations.
SDS NO.: 0384
EPA REGISTRATION NUMBER: 59639-165
REVISION NUMBER: 1
REVISION DATE: 05/14/2015
SUPERCEDES DATE: None
RESPONSIBLE PERSON(S): Valent U.S.A. Corporation, Corporate EH&S, (925) 256-2803

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABELING (attached to and accompanying the product container). This SDS 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 is regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling. 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.

The information in this SDS is based on data available to us as of the revision date given herein, and believed to be correct. Contact Valent U.S.A. Corporation to confirm if you have the most current SDS.

Judgments as to the suitability of information herein for the individual's own use or purposes are necessarily the individual's own responsibility. Although reasonable care has been taken in the preparation of such information, Valent extends no warranties, makes no representations, and assumes no responsibility as to the accuracy or suitability of such information for application to the individual's purposes or the consequences of its use.

2015 Valent U.S.A. Corporation



Tradewind™

HERBICIDE



FOR SELECTIVE MANAGEMENT OF SURFACE, SUBMERSED AND EMERGENT AQUATIC WEEDS IN BAYOUS, DRAINAGE DITCHES, LAKES, MARSHES, NON-IRRIGATION CANALS, PONDS AND RESERVOIRS

Active Ingredient	By Wt.
Bispyribac-sodium (sodium 2,6-bis[(4,6-dimethoxypyrimidin-2-yl)oxy]benzoate)	80.0%
Other Ingredients	20.0%
Total	100.0%

Tradewind™ Herbicide is a soluble powder containing 80% active ingredient.

EPA Reg. No. 59639-165 EPA Est. 065387-AR-001

KEEP OUT OF REACH OF CHILDREN

CAUTION

SEE BELOW FOR ADDITIONAL PRECAUTIONARY STATEMENTS.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS & DOMESTIC ANIMALS

CAUTION

Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Avoid contact with eyes, skin or clothing. Avoid breathing dust or spray mist.

FIRST AID

- If swallowed:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.
- If in eyes:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice. (continued)

FIRST AID (continued)

- If on skin or clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
- If inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact **800-892-0099** for emergency medical treatment information.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

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

Applicators and other handlers must wear: long-sleeved shirt and long pants, chemical resistant gloves such as barrier laminate or butyl rubber ≥ 14 mils or nitrile rubber ≥ 14 mils or viton rubber ≥ 14 mils, shoes plus socks.

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

USER SAFETY RECOMMENDATIONS

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

ENVIRONMENTAL HAZARDS

This product is phytotoxic to some non-target plants. Follow use directions in order to minimize impacts to non-target vegetation. Do not apply to water except as specified on the label.

DIRECTIONS FOR USE

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

READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS, AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.

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

See precautionary language before using treated water for irrigation.

DISCLAIMER, RISKS OF USING THIS PRODUCT, LIMITED WARRANTY AND LIMITATION OF LIABILITY

IMPORTANT: Read the entire Label including this Disclaimer, Risks of Using this Product, Limited Warranty, and Limitation of Liability before using this product. If the terms are not acceptable THEN DO NOT USE THE PRODUCT; rather, return the unopened product within 15 days of purchase for a refund of the purchase price.

RISKS OF USING THIS PRODUCT

The Buyer and User (referred to collectively herein as "Buyer") of this product should be aware that there are inherent unintended risks associated with the use of this product, which are impossible to eliminate. These risks include, but are not limited to, injury to plants and crops to which this product is applied, lack of control of the target pests or weeds, resistance of the target pest or weeds to this product, injury caused by drift, and injury to rotational crops caused by carryover in the soil. If the Buyer chooses not to accept these risks, THEN THIS PRODUCT SHOULD NOT BE APPLIED. By applying this product Buyer acknowledges and accepts these inherent unintended risks AND TO THE FULLEST EXTENT ALLOWED BY LAW, AGREES THAT ALL SUCH RISKS ASSOCIATED WITH THE APPLICATION AND USE ARE ASSUMED BY THE BUYER. Valent shall not be responsible for losses or damages resulting from use of this product in any manner not set forth on the label. Buyer assumes all risks associated with the use of this product in any manner or under conditions not specifically directed or approved on the label.

LIMITED WARRANTY

Valent warrants only that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the label, under average use conditions, when used strictly in accordance with the label and subject to the Risks of Using This Product as described above. To the extent consistent with applicable law AND AS SET FORTH ABOVE, VALENT MAKES NO OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED. No agent or representative of Valent or Seller is authorized to make or create any other express or implied warranty.

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LIMITATION OF LIABILITY

To the fullest extent allowed by law, Valent or Seller is not liable for any incidental, consequential, indirect or special damages resulting from the use or handling of this product. TO THE FULLEST EXTENT ALLOWED BY LAW, THE EXCLUSIVE REMEDY OF THE BUYER, AND THE EXCLUSIVE MAXIMUM LIABILITY OF VALENT OR SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT SHALL BE THE RETURN OF THE PURCHASE PRICE OF THIS PRODUCT OR, AT THE ELECTION OF VALENT OR SELLER, THE REPLACEMENT OF THE PRODUCT.

PROMPT NOTICE OF CLAIM

To the extent consistent with applicable law allowing such requirements Valent must be provided notice as soon as Buyer has reason to believe it may have a claim, but in no event later than twenty-one days from the date of application so that an immediate inspection of the affected property can be made.

To the extent consistent with applicable law if Buyer does not notify Valent of any claims, in such period, it shall be barred from obtaining any remedy.

NO AMENDMENTS

Valent and Seller offer this product, and Buyer accepts it, subject to the foregoing **Disclaimer, Risks of Using This Product, Limited Warranty and Limitation of Liability**, which may not be modified by any oral or written agreement.

TANK MIXES

NOTICE: Tank mixing or use of this product with any other product which is not specifically and expressly authorized by the label shall be the exclusive risk of user, applicator and/or application advisor, to the extent allowed by applicable law.

Read and follow the entire label of each product to be used in the tank mix with this product.

PRODUCT INFORMATION

Tradewind Herbicide is a selective herbicide that will control aquatic weeds in lakes, ponds, non-irrigation canals and other water bodies with limited or no outflow. *Tradewind* Herbicide is formulated as an 80 percent soluble powder and is packaged in water soluble packets that are mixed with water and applied to aquatic areas.

Tradewind Herbicide may be applied as a subsurface application targeting submerged aquatic weeds or as a surface application targeting floating and emergent undesirable aquatic weeds. *Tradewind* Herbicide controls weeds by inhibiting acetolactate synthase (ALS), a key enzyme in the biosynthesis of the

branched-chain amino acids isoleucine, leucine, and valine. Symptoms of aquatic plants after treatment with ALS inhibitors include cessation of growth, discoloration of plant tissue with some yellowing and reddening of leaves and stems, followed by necrosis and death of plants. Symptoms occur slowly and may take two months or longer to fully affect target plants. The level and speed of control will be influenced by species, growth stage, growth rate and exposure time of targeted species, and the rate and timing of application. For best results, apply *Tradewind* Herbicide in the spring when plants are actively growing. Application to more mature or slow growing plants may decrease the speed and/or level of control.

Tradewind Herbicide may be applied to the following slow moving or quiescent bodies of water where there is minimum or no outflow:

- Bayous
- Drainage ditches
- Lakes
- Marshes
- Non-irrigation canals
- Ponds
- Reservoirs

Efficacy of subsurface applications may be decreased if exposure of targeted plants can not be maintained for a sufficient time. Insufficient exposure time may result from rapid inflow of fresh water into treated areas, and/or small spot or shoreline treatment within larger water bodies.

Application to public aquatic areas may require approval and/or permits. Consult with local or state agencies, if required.

Tank Mixes With Other Aquatic Herbicides

Tradewind Herbicide may be tank mixed with other aquatic herbicides and applied as a foliar or subsurface treatment for aquatic weed control. Aquatic plant managers should consult with Valent U.S.A. Corporation prior to application for the latest recommendations.

USE RESTRICTIONS FOR ALL APPLICATIONS

- Do not apply into flowing water, intertidal or estuarine areas.
- There is no post-application holding restriction against use of treated water for drinking or recreational purposes (e.g. swimming, fishing).
- Do not apply to water utilized for crayfish farming.
- **Important:** This product is a herbicide and is active at low concentrations.
- Do not use water treated with *Tradewind* Herbicide for hydroponic farming or to irrigate food crops, golf course greens or ornamental plants grown in greenhouses or nurseries until the concentration of bispyribac-sodium in water is less than or equal to 1 ppb.
- Water treated with *Tradewind* Herbicide may be used to irrigate bermudagrass (except golf course greens) and St. Augustinegrass if the concentration of bispyribac-sodium is below 30 ppb. Repeated irrigation of St. Augustinegrass may cause chlo-

rosis and growth regulation if the concentration of bispyribac-sodium in water is greater than 30 ppb. Prior to irrigating other turf species or landscape ornamentals with water treated with *Tradewind* Herbicide, confer with Valent U.S.A. Corporation if the concentration of bispyribac-sodium in treated irrigation water exceeds 1 ppb.

- Analyze water samples for bispyribac-sodium with Enzyme-Linked Immunosorbent Assay (ELISA) or other approved analytical methods.
- When applying foliar sprays, do not allow spray mist to drift on to desirable broadleaf plants or injury may result. To minimize potential for spray drift, refer to the Spray Drift Management section of this label.

RESISTANCE MANAGEMENT

This product is a Group 2 herbicide. Any weed population may contain or develop plants naturally resistant to *Tradewind* Herbicide and other Group 2 herbicides. Weed species with acquired resistance to Group 2 herbicides may eventually dominate the weed population if Group 2 herbicides are used repeatedly in the same area or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by this product or other Group 2 herbicides.

To delay herbicide resistance:

- Alternate herbicides used for aquatic weed control when possible.
- Base herbicide use on a comprehensive Integrated Pest Management (IPM) program.
- Monitor treated weed populations for loss of efficacy.
- Contact your local extension specialist, other experts appropriate to aquatic use, and/or manufacturer for herbicide resistance management and/or integrated weed management recommendations.

For further information or to report suspected resistance, you may contact Valent U.S.A. Corporation at the following toll-free number: 800-89-VALENT (898-2536).

SPRAY DRIFT MANAGEMENT FOR FOLIAR OR SURFACE APPLICATIONS

Do not apply under circumstances where possible drift to unprotected persons or to food, forage or other plantings that might be damaged or crops thereof rendered unfit for sale, use or consumption can occur. These precautions do not apply when *Tradewind* Herbicide is injected into water by closed systems.

- Use the largest droplet size consistent with acceptable efficacy. Formation of very small droplets may be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible and by using appropriate spray boom pressure. For ground boom and aerial applications, use medium or coarser spray nozzles according to ASAE 572 definition for standard nozzles or a volume mean diameter (VMD) of 300 microns or greater for spinning atomizer nozzles.
- Make aerial, ground or watercraft-based applications when wind velocity favors on-target product deposition. Apply only when the wind speed is less than or equal to 10 mph.

- Do not make aerial or ground applications into areas of temperature inversions. Inversions are characterized by stable air and increasing temperatures with increasing distance above the ground. Mist or fog may indicate the presence of an inversion in humid areas. Where permissible by local regulations, the applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.
- Low humidity and high temperatures increase the evaporation rate of spray droplets and therefore the likelihood of increased spray drift. Avoid spraying during conditions of low humidity and/or high temperatures.

APPLICATION AND SPRAYER INFORMATION

Properly maintain and calibrate all aerial, ground and watercraft based application equipment.

MIXING INSTRUCTIONS

Water soluble packets containing *Tradewind* Herbicide should completely dissolve in the spray tank within approximately five minutes. The rate at which water soluble packets dissolve may be slowed by cold water, lack of agitation or water containing high concentrations of boron or sulfur.

1. Fill clean spray tank 1/3 to 1/2 of desired level with clean water.
2. While agitating, add *Tradewind* Herbicide and ensure it has dissolved completely before proceeding. Agitation should create a rippling or rolling action on the water surface.
3. Fill spray tank to desired level with water. Continue agitation until spray solution has been applied.
4. Mix only the amount of spray solution that can be applied the day of mixing.
5. Apply *Tradewind* Herbicide within 24 hours after mixing with water in spray tank.

ADDITIVES

When applying *Tradewind* Herbicide to the foliage of floating or emerged aquatic weeds, mix with an adjuvant approved for use in aquatic habitats. Valent recommends the use of a Chemical Producers and Distributors Association certified adjuvant. Mix *Tradewind* Herbicide with a non-ionic surfactant containing at least 80% active ingredient. Follow adjuvant manufacturer's label rates. Verify mixing compatibility with a jar test before using.

SPRAYER CLEANUP

If spray equipment is dedicated to application of aquatic herbicides, completely drain the spray tank and rinse the application equipment thoroughly, including the inside and outside of the tank and all inline screens.

Trace amounts of *Tradewind* Herbicide in or on mixing or spraying equipment may have an adverse effect on subsequently sprayed plants. Therefore, if spray equipment will be used for purposes other than applying aquatic herbicides, the following steps must be used to clean the spray equipment after application of *Tradewind* Herbicide:

1. Completely drain the spray tank and rinse the spray equipment thoroughly, including the inside and outside of the tank and all inline screens.
2. Fill the tank with clean water and flush all hoses, booms, screens and nozzles.
3. Top off tank with clean water.
4. Circulate through sprayer for 5 minutes.
5. Then flush all hoses, booms, screens and nozzles for a minimum of 15 minutes.
6. Drain tank completely.
7. Remove all nozzles and screens and rinse again with clean water.

CONTROL OF FLOATING AND EMERGED WEEDS USING SURFACE APPLICATION

Table 1 lists floating and emergent aquatic weeds that *Tradewind* Herbicide will control when applied as a broadcast spray with appropriate equipment. Plants that are partially controlled may show herbicide stress during active growth, but are less likely to be killed by treatment. Use of lower labeled rates will increase the level of selectivity to desirable vegetation. For best results, apply *Tradewind* Herbicide to the foliage of actively growing weeds.

Table 1. Floating and Emergent Weeds

Common Name	Scientific Name
Alligatorweed	<i>Alternanthera philoxeroides</i>
Duckweed	<i>Lemna</i> spp.
Mosquito Fern	<i>Azola caroliniana</i>
Parrotfeather	<i>Myriophyllum aquaticum</i>
Water Fern	<i>Salvinia</i> spp.
Water Hyacinth	<i>Eichhornia crassipes</i>
Water Lettuce	<i>Pistia stratiotes</i>
Water Pennywort	<i>Hydrocotyle</i> spp.

Surface Application

Apply *Tradewind* Herbicide as a broadcast spray at 1 to 2 ounces of formulated product per acre. Use higher rate for more mature, denser weed growth. Apply in a minimum of 30 gal of water per acre to ensure adequate coverage. Allow 30 days between applications and apply no more than 8 oz of product per acre per year. Do not exceed 4 applications per year.

When applying to densely packed actively growing surface weeds, ensure adequate coverage. A second application may be required for complete control under these conditions.

Tradewind Herbicide may be tank mixed with 2,4-D, diquat or other registered foliar applied aquatic herbicides for enhanced control of floating and emergent weeds.

Application Equipment

Apply *Tradewind* Herbicide with sprayers equipped with nozzles designed to deliver the desired spray pressure and spray volume. Apply by backpack or handgun sprayer, airboat, helicopter, airplane or other application equipment that will ensure thorough coverage of target plant foliage.

AERIAL APPLICATION

Allow 30 days between applications. For surface applications apply no more than 8 oz of product per acre per year. Do not exceed 4 applications per year. Apply *Tradewind* Herbicide by air at 1 to 2 oz of formulated product per acre. To obtain satisfactory weed control, aerial application of *Tradewind* Herbicide must provide uniform coverage of weeds. Do not apply by air when drift is possible or when wind velocity is more than 10 mph. Do not spray *Tradewind* Herbicide within 200 feet of dwellings, adjacent sensitive crops or environmentally sensitive areas. To obtain satisfactory application and minimize drift, observe the following directions when applying by air:

Volume and Pressure

Apply *Tradewind* Herbicide in 5 to 10 gal of water per acre, with a maximum spray pressure of 40 PSI. Application at less than 5 gal per acre may not provide adequate weed control. Higher gallonage applications generally provide more consistent weed control.

Nozzles and Nozzle Operation

Use nozzles that produce flat or hollow cone spray patterns. Use non-drip type nozzles such as diaphragm type nozzles to avoid unwanted discharge of spray solution. The nozzle must be directed toward the rear of the aircraft, at an angle between 0° and 15° downward. Do not place nozzles on the outer 25% of the wings or rotors.

Adjuvants

Refer to the ADDITIVES section or the tank mix partners label for adjuvant recommendation.

CONTROL OF SUBMERSED WEEDS USING SUBSURFACE APPLICATION

Table 2 lists submersed aquatic plants that *Tradewind* Herbicide will control when applied subsurface with appropriate equipment. Plants that are partially controlled may show herbicide stress during active growth, but are less likely to be killed by treatment. Use of lower labeled rates will increase the level of selectivity to desirable vegetation.

Table 2. Submersed Weeds Controlled by Subsurface Application

Common Name	Scientific Name
Hydrilla	<i>Hydrilla verticillata</i>
Pondweed, Sago	<i>Potamogeton pectinatus</i>
Watermilfoil, Eurasian	<i>Myriophyllum spicatum</i>

Best results with *Tradewind* Herbicide will be achieved when applied to young and actively growing submersed weeds that have limited biomass.

Subsurface Application Rates

Apply *Tradewind* Herbicide at a rate that will produce an initial concentration of 20 to 45 ppb in the water column of the treatment zone. Use the higher concentrations when weed biomass is heavy, when weeds are more mature and topped out, and/or when treating less susceptible plants. Use Table 3

to determine amount of *Tradewind* Herbicide needed to achieve desired concentration at different water depths. For optimal control, repeat applications to maintain desired water column concentrations of *Tradewind* Herbicide for 60 to 90 days after initial application, or until target weeds are controlled. Do not reapply within 14 days after initial application. Do not exceed 4 applications per year.

Multiple applications (up to 4 per year) of *Tradewind* Herbicide at lower rates may be needed in water bodies where there is a requirement for selective weed control, or the need to control weed species with a longer exposure time requirement.

For subsurface applications, do not allow the water concentration to exceed 45 ppb of *Tradewind* Herbicide in the treatment zone for any application (either initial or when retreating to maintain the effective water concentration). A maximum of 4 applications is allowed per year.

The use of ELISA (Enzyme-Linked Immunosorbent Assay) analysis or other analytical methods is recommended to determine if and when it is necessary to make sequential applications of *Tradewind* Herbicide.

Application Equipment

To ensure adequate coverage, apply *Tradewind* Herbicide with weighted trailing hoses in order to place the herbicide under the surface and throughout the biomass of aquatic vegetation. *Tradewind* Herbicide may also be applied with handguns to the water surface and will adequately mix with the water column. Keep swath width to a minimum in order to maximize contact with submersed aquatic vegetation.

Tank Mixes With Other Aquatic Herbicides

Tradewind Herbicide may be tank mixed with other aquatic herbicides. Where rapid control of hydrilla is desired, apply *Tradewind* Herbicide in combination or sequence with contact herbicides that are approved for aquatic use.

Table 3. Subsurface Application Rates

Water Depth (ft)	Concentration of <i>Tradewind</i> Herbicide in Water (ppb) Pounds (Ounces) Product per Surface Acre at Given Depth						
	15 ppb	20 ppb	25 ppb	30 ppb	35 ppb	40 ppb	45 ppb
1	0.05 (0.8)	0.07 (1.1)	0.08 (1.3)	0.1 (1.6)	0.12 (1.9)	0.13 (2.1)	0.15 (2.4)
2	0.10 (1.6)	0.13 (2.1)	0.17 (2.7)	0.2 (3.2)	0.23 (3.7)	0.27 (4.3)	0.3 (4.8)
3	0.15 (2.4)	0.20 (3.2)	0.25 (4)	0.3 (4.8)	0.35 (5.6)	0.4 (6.4)	0.45 (7.2)
4	0.20 (3.2)	0.27 (4.3)	0.33 (5.3)	0.4 (6.4)	0.47 (7.5)	0.53 (8.5)	0.6 (9.6)
5	0.25 (4)	0.33 (5.3)	0.42 (6.7)	0.5 (8)	0.58 (9.3)	0.67 (10.7)	0.75 (12)
6	0.30 (4.8)	0.40 (6.4)	0.5 (8)	0.6 (9.6)	0.7 (11.2)	0.8 (12.8)	0.9 (14.4)
7	0.35 (5.6)	0.47 (7.5)	0.58 (9.3)	0.7 (11.2)	0.82 (13.1)	0.93 (14.9)	1.05 (16.8)
8	0.40 (6.4)	0.53 (8.5)	0.67 (10.7)	0.8 (12.8)	0.93 (14.9)	1.06 (17.0)	1.2 (19.2)

This table is intended to be a guide for determining rate per surface acre. Multiply the rate per surface acre by the total acres to be treated to determine the amount to apply to a given area. For example, if treating 4 surface acres on a 5 foot deep body of water at 30 ppb, apply 2 pounds of product (4 water soluble bags). Do not open water soluble bags.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE

Store in a cool dry place.
Keep pesticide in original container.
Keep container closed when not in use.
Do not put concentrate or dilute into food or drink containers.
Not for use or storage in or around the home.
For help with any spill, leak, fire or exposure involving this material, call day or night **800-892-0099**.

PESTICIDE DISPOSAL

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

CONTAINER HANDLING

Nonrefillable outer bag. Do not reuse or refill the outer bag. Completely empty bag into application equipment. Offer bag for recycling if available. If recycling is not available, then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

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Manufactured for:

Valent U.S.A. Corporation

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Always check with your state to verify state registration status or call 800-89-VALENT (898-2536).



For state registration and/or supplemental labels, please call or visit us online.

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