



Material Safety Data Sheet

Tradewind™ Herbicide

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Tradewind™ Herbicide
VC NUMBER(S): VC 1177
SYNONYM(S): Bispyribac 80 SP
EPA REGISTRATION NUMBER: 59639-165

PRODUCT DESCRIPTION: 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

PROFESSIONAL PRODUCTS: (800) 898-2536 .

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

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW.

CAUTION

- Causes moderate eye irritation.
- Harmful if swallowed or absorbed through skin.
- Harmful if inhaled.
- Avoid breathing dust or spray mist
- Minimally irritating to skin.
- Keep out of reach of children.

POTENTIAL HEALTH EFFECTS

Acute Toxicity (Primary Routes of Exposure): Skin, Inhalation, Eyes

Acute Eye Contact: Based on an evaluation of the ingredients and/or similar products, this product may cause brief and/or minor eye irritation. The expected adverse health effects resulting from an exposure may include redness and possible swelling.

Acute Skin Contact: Based on an evaluation of the ingredients and/or similar products, this product may cause brief and/or minor skin irritation. The expected adverse health effects resulting from an exposure may include redness and possibly some minor swelling. Based on an evaluation of the ingredients and/or similar products, this product may be slightly toxic when absorbed through the skin.

Based on an evaluation of the ingredients and/or similar products, this product is not expected to cause allergic skin reactions.

Acute Ingestion: Based on an evaluation of the ingredients and/or similar products, this product may be slightly toxic when ingested.

Emergency Telephone: (800) 892-0099.
REVISION NUMBER: 4

MSDS NO.: 0384
REVISION DATE: 01/31/2011

Acute Inhalation: Based on an evaluation of the ingredients and/or similar products, this product is expected to be slightly toxic when inhaled. Exposure to high concentrations in the air may result in respiratory irritation. Signs and symptoms may include, but not be limited to, nasal discharge, sore throat, coughing and difficulty in breathing.

Chronic Toxicity (including cancer): Studies with bispyribac-sodium technical in laboratory animals indicate that repeated high exposures can produce changes in the liver, urinary bladder, bile duct and kidney but do not produce cancer.

Developmental Toxicity (birth defects): No developmental toxicity was produced in laboratory animals exposed to bispyribac-sodium technical, even at doses that were toxic to the pregnant animal.

Reproductive Toxicity: Bispyribac-sodium technical did not produce reproductive toxicity in animal studies.

Signs and Symptoms of Systemic Effects: Signs of toxicity observed in test animals exposed to repeated high doses of a similar product, bispyribac-sodium technical, include vomiting, salivation, loose stools and decreased body weight gain.

Potentially Aggravated Medical Conditions: Individuals with preexisting conditions of the liver, kidney, bile duct or urinary bladder may have increased susceptibility to the toxicity of excessive exposures

For complete discussion of the toxicology data from which this evaluation was made, refer to Section 11. For Ecotox/Environmental Information, refer to Section 12. For Regulatory Information, refer to Section 15.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Weight/ Percent	Purpose
Bispyribac-sodium (Sodium 2,6-bis[(4,6-dimethoxypyrimidin-2-yl)oxy]benzoate).	125401-92-5	77 - 83	Active Ingredient
Others (including particulates not otherwise classified).	No CAS#	17 - 23	- .

Other ingredients, which are 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.

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.

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 concentrate into food or drink containers. Do not dilute concentrate 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.

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. Unless ventilation is 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 should be minimized by wearing protective clothing including gloves.

EXPOSURE LIMITS

Chemical Name	ACGIH Exposure Limits	OSHA Exposure Limits	Manufacturer's Exposure Limits
Bispyribac-sodium (Sodium 2,6-bis[(4,6-dimethoxypyrimidin-2-yl)oxy]benzoate).	None.	None.	None.
Others (including particulates not otherwise classified).	None.	None.	None.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM:	Powder at ambient temperature
ODOR:	Odorless
FLASH POINT:	Not applicable.
MELTING POINT:	219.5°C (Technical decomposes)
BULK DENSITY:	0.25 g/ml or 15.6 lb./cu. ft.
pH:	8.84 (1% w/v in water, 20°C)
CORROSION CHARACTERISTICS:	No data available
SOLUBILITY:	6.75 g/100 ml water (Technical)

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY:	Stable at normal ambient temperatures.
INCOMPATIBILITY:	Non-reactive with oxidizing and reducing agents and fire suppressants.
OXIDATION/REDUCTION PROPERTIES:	Not reactive with water, monoammonium phosphate, zinc, and potassium permanganate.
EXPLODABILITY:	No data available
HAZARDOUS DECOMPOSITION PRODUCTS:	None expected

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 sensitizing

CARCINOGEN CLASSIFICATION

Chemical Name	IARC - Group 1 (carcinogenic to humans)	IARC - Group 2A (Probably carcinogenic)	IARC - Group 2B (Possibly carcinogenic)	NTP Carcinogen List
Bispyribac-sodium (Sodium 2,6-bis[(4,6-dimethoxypyrimidin-2-yl)oxy]benzoate).	No.	No.	No.	Not listed.

TOXICITY 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.

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: 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 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 in accordance with applicable laws and regulations.

14. TRANSPORT INFORMATION

UN/NA NUMBER:	Not applicable.
DOT (ground) SHIPPING NAME:	Compounds, weed killing, dry, non-regulated
TECHNICAL NAME (hazardous material):	Not applicable.
HAZARD CLASS:	Not applicable.

PACKING GROUP:	Not applicable.
DOT REPORTABLE QUANTITY (RQ):	Not applicable.
REMARKS:	None.
EXEMPTION REQUIREMENT:	None.
EMERGENCY RESPONSE GUIDEBOOK NO.:	Not applicable.
MARINE POLLUTANT:	Not applicable.

15. REGULATORY INFORMATION

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.

16. OTHER INFORMATION

REASON FOR ISSUE:	Added the EPA registration number. Added container disposal information. Corrected acute inhalation EPA Tox Category. Add honey bee information in Section 12. Minor edits throughout for clarity.
MSDS NO.:	0384
EPA REGISTRATION NUMBER:	59639-165
REVISION NUMBER:	4
REVISION DATE:	01/31/2011
SUPERCEDES DATE:	March 4, 2009
RESPONSIBLE PERSON(S):	Valent U.S.A. Corporation, Corporate EH&S, (925) 256-2803.

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 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 MSDS 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 MSDS.

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