Material Safety Data Sheet

Velocity® SG Herbicide

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, and 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.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Velocity® SG Herbicide
VC NUMBER(S): 1481 & 1494
ITEM: 86260
EPA REGISTRATION NUMBER: 59639-136

MANUFACTURER
VALENT USA 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
PROFESSIONAL PRODUCTS: (800) 898-2536

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

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Weight/ Percent	ACGIH Exposure Limits	OSHA Exposure Limits
Bispyribac-sodium (Sodium 2,6-bis[(4,6-dimethoxypyrimidin-2-yl)oxy]benzoate) * (125401-92-5)	17.6	None	None
Particulates Not Otherwise Classified ** (No CAS#)	82.4	10 mg/m³ TWA (inhalable particulate); 3 mg/m³ TWA (respirable fraction)	15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction)

* Active Ingredient

** 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 identity is 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 **1-800-892-0099** at any time.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CAUTION

- May cause eye irritation.
- Avoid contact with eyes, skin and clothing.
- Keep out of reach of children.

POTENTIAL HEALTH EFFECTS

Acute Toxicity (Primary Routes of Exposure)

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.

Acute Eye Contact: This product can 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: This product can cause brief and/or minor irritation. The expected adverse health effects resulting from an exposure may include redness and possibly some minor swelling. This product is minimally toxic when absorbed through the skin. This product is not expected to cause allergic skin reactions.

Acute Ingestion: This product is minimally toxic when ingested.

Acute Inhalation: This product is minimally toxic when inhaled.

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.

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 Regulatory Information, refer to Section 15.

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 a person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

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
AUTOIGNITION: No data available
EXTINGUISHING MEDIA: Water fog, carbon dioxide, foam, dry chemical

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: Products of combustion from fires involving this material may be toxic. Avoid breathing smoke and mists. Avoid personnel and equipment contact with fallout and runoff. Minimize the amount of water used for fire fighting. Do not enter any enclosed area without full protective equipment, including self-contained breathing equipment. Contain and isolate runoff and debris for proper disposal. Decontaminate personal protective equipment and fire fighting equipment before reuse. Read the entire document.

HAZARDOUS COMBUSTION PRODUCTS: Normal combustion forms carbon dioxide, water vapor and may produce: Oxides of nitrogen. Incomplete combustion can produce carbon monoxide.

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.

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 is water soluble. Stop or reduce contamination of any water. Isolate contaminated 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.

Keep pesticide in original container. Do not store or transport near food or feed. Do not contaminate food or feed. Do not put concentrate into food or drink containers. Do not dilute concentrate in food or drink containers. Store in a cool, dry place, out of direct sunlight.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

EYES: 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.

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

EXPOSURE LIMITS - See Section 2.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	Granule
COLOR:	Light brown
ODOR:	Odorless
BULK DENSITY:	31.3 lb./cu. ft.
VAPOR PRESSURE:	Not applicable
pH:	6.4 @ 21° C (1% solution)
CORROSION CHARACTERISTICS:	No data available
SOLUBILITY:	Soluble in water.

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY:	Stable at normal ambient temperatures.
INCOMPATABILITY:	None known
OXIDATION/REDUCTION PROPERTIES:	Not reactive with water, monoammonium phosphate, zinc, and potassium permanganate.
EXPLODABILITY:	Not expected to be explosive.
HAZARDOUS DECOMPOSITION PRODUCTS:	None expected

11. TOXICOLOGICAL INFORMATION

ACUTE (Product Specific Information):

Eye Irritation: This product produced brief and/or minor eye irritation in the eyes of test animals. (Toxicity Category III)

Skin Irritation:	This product produced brief and/or minor irritation in animals. (Toxicity Category IV)
Oral Toxicity:	The oral LD_{50} in rats is > 5000 mg/kg. (Toxicity Category IV)
Dermal Toxicity:	The dermal LD_{50} in rats is > 5000 mg/kg. (Toxicity Category IV)
Inhalation Toxicity:	The 4-hour inhalation LC_{50} in rats is > 2.16 mg/L. (Toxicity Category IV)
Skin Sensitization:	This product was not a skin sensitizer in animals.

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 3. 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 LC_{50} 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.

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

DOT (ground) SHIPPING NAME:	Compounds, weed killing, dry, non-regulated
DOT TECHNICAL SHIPPING NAME:	Bispyribac-sodium 17.6% solid
DOT REPORTABLE QUANTITY (RQ):	Not applicable
UN/NA NUMBER:	Not applicable
HAZARD CLASS:	Not applicable
REMARKS:	None
EXEMPTION REQUIREMENT:	None

15. REGULATORY INFORMATION

REGULATIONS UNDER FIFRA: 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.

OTHER U.S. FEDERAL REGULATIONS:

Chemical Name	RCRA - U Series Wastes	Clean Water Act - Hazardous Substances	Clean Water Act Section 307
Bispyribac-sodium (Sodium 2,6-bis[(4,6-dimethoxypyrimidin-2-yl)oxy]benzoate) * (125401-92-5)	None	Not listed	Not listed

CWA Section 311: No data

Chemical Name	SARA 313 Chemicals	SARA Section 302	CERCLA Reportable Quantity (RQ):
Bispyribac-sodium (Sodium 2,6-bis[(4,6-dimethoxypyrimidin-2-yl)oxy]benzoate) * (125401-92-5)	Not listed	Not listed	None

SARA (311, 312):

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

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) * (125401-92-5)	No	No	No	Not listed

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 2 for Exposure Limit information. For Louisiana Right to Know refer to SARA information listed under U.S. Regulations above.

Chemical Name	California Proposition 65	California - Directors List of Hazardous Substances
Bispyribac-sodium (Sodium 2,6-bis[(4,6-dimethoxypyrimidin-2-yl)oxy]benzoate) * (125401-92-5)	Not listed	Not listed

Chemical Name	MI - Critical Materials List	MA Right To Know	NJ Right To Know
Bispyribac-sodium (Sodium 2,6-bis[(4,6-dimethoxypyrimidin-2-yl)oxy]benzoate) * (125401-92-5)	Not listed	Not listed	Not listed

Chemical Name	PA Right To Know	RI Right To Know	MN Hazardous Substance
Bispyribac-sodium (Sodium 2,6-bis[(4,6-dimethoxypyrimidin-2-yl)oxy]benzoate) * (125401-92-5)	Not listed	Not listed	Not listed

California Proposition 65: Not listed

CANADIAN REGULATIONS:

WHMIS Hazard Class: Not determined

For information regarding potential adverse health effects from exposure to this product, refer to Sections 3 and 11.

16. OTHER INFORMATION

REASON FOR ISSUE: Add the Item and EPA registration number.
MSDS NO.: 0229
REVISION NUMBER: 5
REVISION DATE: 07/14/2006
SUPERCEDES DATE: 10/07/2004

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 USA CORPORATON TO CONFIRM IF YOU HAVE THE MOST CURRENT MSDS.

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