

Material Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: Bispyribac-sodium
VC NUMBER (S): 1177
Item: 36250
Company:
 CHANGZHOU BOOMING CROP SCIENCE CO.,LTD
 NO.2, BUILDING 53,HUNDSUN SCIENCE &TECHNOLOGY PARK,BEITANGHE ROAD,TIANNING DISTRICT, CHANGZHOU, JIANGSU, CHINA
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2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Weight/Percent	ACGIH Exposure Limits	OSHA Exposure Limits	OSHA Exposure Limits
Bispyribac-sodium (Sodium 2,6-bis[[4,6-dimethoxypyrimidin-2-yl)oxy]benzoate) *(125401-92-5).	77 – 83	none.	none.	See regulated exposure limits
Others ** (including particulates not otherwise classified) (No CAS#).	17 – 23	10 mg/m ³ TWA (inhalable particulate); 3 mg/m ³ TWA (respirable fraction)	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)	See regulated exposure limits.

* 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 **(800) 682-5368** at any time

3. HAZARDS IDENTIFICATION

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: 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.

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.

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

4. FIRST AID MEASURES

EMERGENCY NUMBER (800) 682-5368

Have the product container or label with you when calling a poison control centre or doctor, or going for treatment. You may also contact **1-800-682-5368** 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 centre 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 centre 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 centre or doctor for further treatment advice.

Notes to physician:

None.

5. FIRE FIGHTING MEASURES

Flash point: Not applicable.

AUTOIGNITION: Not 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

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.

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: Powder at ambient temperature

Odour: Odourless

Melting point: 219.5°C (Technical decomposes)

Bulk density: 0.25 g/ml or 15.6 lb./cu. ft.

Vapour Pressure: 6.7 mPa at 25°C (Technical)

pH: 8.84 (1% w/v in water, 20°C)

Corrosion Characteristics: No data available

Solubility: 6.75g/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 technical material.

Oral Toxicity LD50 (rats)	Male-4111mg/kg	EPA Tox Category
III		
	Female-2635mg/kg	EPA Tox Category
Dermal Toxicity LD50(rabbits)	> 2000mg/kg	EPA Tox Category
III		
Inhalation Toxicity LC50(rats)	> 4.48mg/l	EPA Tox Category
IV		
Eye Irritation(rabbits)	Slightly irritating	EPA Tox Category
IV		
Skin Irritation(rabbits)	Brief and/or minor irritation	EPA Tox Category
IV		
Skin Sensitization	Potential sensitizer	EPA Tox Category
Not applicable		

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 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:

mg/kg	Oral LD ₅₀ , bobwhite quail:	greater than 2250
	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:

ppm	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
	Mysid shrimp 96 hr. LC ₅₀ :	greater than 100 ppm



Oyster shell deposition 96 hr. EC₅₀: greater than 100 ppm

OTHER NON-TARGET ORGANISM TOXICITY: 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.

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:	Herbicide, dry, non-regulated
DOT technical shipping name:	Bispyribac-sodium
DOT reportable quantity (RQ):	Not applicable.
UN/NA number:	Not applicable
Hazard class:	Not applicable.

15. REGULATORY INFORMATION

CANADIAN REGULATIONS:

PESTICIDE REGULATIONS: All pesticides are governed under PCPA (Pest Control Products 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.

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

THE INFORMATION IN THIS MSDS IS BASED ON DATA AVAILABLE TO US AS OF THE REVISION DATE GIVEN HEREIN, AND BELIEVED TO BE CORRECT. JUDGEMENTS 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, CHANGZHOU DAWN INTERNATIONAL CO., LTD 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.