

## Material Safety Data Sheet

### Fluopicolide 7%+ Propamocarb hydrochloride 63% SC

#### 1. PRODUCT IDENTIFICATION

Product Name: Fluopicolide 7%+ Propamocarb hydrochloride 63% SC  
 Common Name: Fluopicolide + Propamocarb hydrochloride  
 Chemical Family: Benzamide fungicide (Fluopicolide)  
 Carbamate fungicide. (Propamocarb hydrochloride)  
 Chemical Formula: C<sub>14</sub>H<sub>8</sub>Cl<sub>3</sub>F<sub>3</sub>N<sub>2</sub>O (Fluopicolide)  
 C<sub>9</sub>H<sub>21</sub>ClN<sub>2</sub>O<sub>2</sub> (Propamocarb hydrochloride)  
 Chemical Name: 2,6-dichloro-*N*-[3-chloro-5-(trifluoromethyl)-2-pyridylmethyl]benzamide  
 (Fluopicolide)  
 propyl 3-(dimethylamino)propylcarbamate hydrochloride (Propamocarb  
 hydrochloride)  
 CAS No.: 239110-15-7 (Fluopicolide)  
 25606-41-1 (Propamocarb hydrochloride)  
 Product Use: Fungicide

#### 2. COMPANY IDENTIFICATION:

**Exporter:**

CHICO CROP SCIENCE CO., LTD.

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#### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredient Name</u>	<u>CAS Registry Number</u>	<u>Typical Wt. w/w</u>
Fluopicolide	239110-15-7	7%
Propamocarb hydrochloride	25606-41-1	63%
Inert	---	to balance

#### 4. HAZARDS IDENTIFICATION

**Emergency Overview**

Off-white liquid.

CAUTION!

KEEP OUT OF REACH OF CHILDREN

MAY CAUSED SKIN SLIGHT IRRITATION

MAY CAUSED EYE SLIGHT IRRITATION



## Potential Health effects

Dermal contact, ingest and inhalation of the product are the primary routes to induce potential adverse health effects. Inhalation of aerosol during application of the product as part of its end use is another potential route of entry. Eye and skin irritation may occur from contact with the liquid or spray mixture.

## 5. FIRST AID MEASURES

If swallowed: People who take it by mistake drink plenty of warm water to induce vomiting. Never give anything by mouth to an unconscious person. Should be send to the hospital treatment immediately.

If in eye: Immediately rinse eyes with a large amount of running water. Hold eyelids apart to rinse. Consult a doctor.

If on skin: Wash with plenty of soap and water, including hair and under fingernails. Do not apply any medicating agents except on the advice of a physician. Remove contaminated clothing and decontaminate prior to use.

If Inhaled: Move victim from contaminated area to fresh air. Apply artificial respiration if necessary.

Notes to Physician:

There is no specific antidote, Treat symptomatically.

## 6. FIRE FIGHTING MEASURES

### Fire and explosive Properties

Auto-Ignition Temperature	Not applicable
Flash Point	Not available

### Extinguishing Media

Water fog, Carbon Dioxide, Dry Chemical, Foam.

### Fire Fighting Instructions

The product is not flammable. If firing, fire fighters and others who may be exposed to products of combustion should wear full firefighting turn out gear and self-contained breathing apparatus. Firefighting equipment should be thoroughly decontaminated after use. Person who may have been exposed to contaminated smoke should be immediately examined by a physician and checked for symptoms of poisoning. The symptoms should not be mistaken for heat exhaustion or smoke inhalation.



## 7. ACCIDENTAL RELEASE MEASURES

### **In Case of Spill or Leak**

Stop the leak, if possible. Ventilate the space involved. Absorb, sweep up, place in container for disposal. Shut off or remove all ignition sources. Prevent waterway contamination. Construct a dike to prevent spreading. Protect works with water spray. Collect run-off water and transfer to drums or tanks for later disposal.

## 8. HANDLING AND STORAGE

### **Handling**

Harmful if swallowed, inhaled, or absorbed through the skin. Causes eye irritation. Do not breathe gas or allow to get in eyes, on skin, or on clothing. Wash hands, arm and face thoroughly with soap and warm water after use and before eating or smoking. Wash all contaminated clothing with soap and hot water before reuse. Do not contaminate feed or food items. Keep out of reach of children.

### **Storage**

Store in a cool dry and air ventilating warehouse and protected from light. Avoid contacting with food, feed stuff and seed.

## 9. EXPOSURE CONTROLS/PERSONAL PROTECTION

### **Eye/Face Protection**

Goggles and full-face shield should be used when needed to prevent liquid from face and getting into the eyes.

### **Skin Protection**

Avoid skin contact. Use chemical-resistant gloves, and wear long sleeves and trousers to prevent dermal exposure.

### **Respiratory Protection**

Under normal handling conditions no respiratory protection is needed. However, if needed to prevent respiratory irritation, either a respirator approved for dusts and mists, or one approved for pesticides.

## 10. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Off-white
Physical state:	Liquid
Odor:	No obvious odor
pH:	5.0-8.0

Melting point:	150 °C (Fluopicolide); 64.2 °C (Propamocarb hydrochloride).
Boiling point:	N/A (Fluopicolide); N/A (Propamocarb hydrochloride).
Vapor pressure:	$3.03 \times 10^{-4}$ mPa (20°C); $8.03 \times 10^{-4}$ mPa (25°C) (Fluopicolide); $3.8 \times 10^{-2}$ mPa (20 °C) (Propamocarb hydrochloride)
Solubility in water:	In water 2.8 mg/l (pH 7, 20 °C). (Fluopicolide); In water >500 g/l (pH 1.6–9.6, 20 °C). (Propamocarb hydrochloride).
Solubility in organic solvents:	In <i>n</i> -hexane 0.20, ethanol 19.2, toluene 20.5, ethyl acetate 37.7, acetone 74.7, dichloromethane 126, DMSO 183 (all in g/l, 20 °C) ( <i>EPA Fact Sheet</i> ). (Fluopicolide); In methanol 656, dichloromethane >626, acetone 560.3, ethyl acetate 4.34, toluene 0.14, hexane <0.01 (all in g/l, 20 °C). (Propamocarb hydrochloride).
Partition coefficient:	$K_{ow}$ logP = 3.26 (pH 7.8, 22 °C) (EPA Fact Sheet); logP = 2.9 (pH 4.0, 7.3 and 9.1, 40 °C). (Fluopicolide); $K_{ow}$ logP = -1.21 (pH 7) (Propamocarb hydrochloride).

## 11. STABILITY AND REACTIVITY

### Stability

Stable to light and to hydrolysis (pH 4–9). (Fluopicolide);  
Stable to hydrolysis and to photolysis. (Propamocarb hydrochloride)

### Hazardous Polymerization

Does not occur.

### Incompatibility

The product is not compatible with strong bases, strong acids agents.

### Hazardous Decomposition Products

Not available

## 12. TOXICOLOGICAL INFORMATION

<b>Acute Oral:</b>	Acute oral LD <sub>50</sub> for rats >5000 mg/kg. (Fluopicolide); Acute oral LD <sub>50</sub> for rats 2000–2900, mice 2650–2800, dogs <i>c.</i> 1450 mg/kg. (Propamocarb hydrochloride)
<b>Acute Dermal:</b>	Acute percutaneous LD <sub>50</sub> for rats >5000 mg/kg. (Fluopicolide); Acute percutaneous LD <sub>50</sub> for rats and mice >3000 mg/kg. (Propamocarb hydrochloride)
<b>Irritation:</b>	Not a skin or eye irritant (rabbits). (Fluopicolide); Not a skin or eye irritant (rabbits). (Propamocarb hydrochloride)
<b>Sensitization:</b>	Not a skin sensitizer (guinea pigs). (Fluopicolide).

**Long-term Studies:** Sensitizing to the skin (guinea pigs). (Propamocarb hydrochloride)  
 Studies showed no evidence of carcinogenicity and mutagenicity to rats and rabbits. (Fluopicolide).  
 Negative in Ames and micronucleus tests. Not teratogenic in rats and rabbits, no reproductive, developmental or carcinogenic effects. (Propamocarb hydrochloride)

## 13. ECOLOGICAL INFORMATION

### Ecotoxicological Information

#### Fluopicolide

Effects on Birds: Acute oral LD<sub>50</sub> for bobwhite quail and mallard ducks >2250 mg/kg.  
 Effects on Fish: LC<sub>50</sub> (96 h) for rainbow trout 0.36, bluegill sunfish 0.75 mg/l.  
 Effects on Daphnia: EC<sub>50</sub> (48 h) >1.8 mg/l.  
 Effects on Algae: E<sub>r</sub>C<sub>50</sub> (72 h) for *Selenastrum capricornutum* >4.3 mg/l.  
 Effects on Bees: LC<sub>50</sub> (oral) >241 µg/bee; (contact) >100 µg/bee.

#### Propamocarb hydrochloride

Effects on Birds: Acute oral LD<sub>50</sub> for bobwhite quail and mallard ducks >1842 mg/kg.  
 Dietary LC<sub>50</sub> for bobwhite quail and mallard ducks >962 mg/kg.  
 Effects on Fish: LC<sub>50</sub> (96 h) for bluegill sunfish >92, rainbow trout >99 mg/l.  
 Effects on Daphnia: LC<sub>50</sub> (48 h) 106 mg/l.  
 Effects on Algae: E<sub>r</sub>C<sub>50</sub> (72 h) for *Pseudokirchneriella subcapitata* >85 mg/l; E<sub>b</sub>C<sub>50</sub> >120 mg/l.  
 Effects on Bees: LD<sub>50</sub> (oral) >84 µg/bee; (contact) >100 µg/bee.

### Chemical Fate Information

**Animals:** In male or female rats, c. 80% of the dose was eliminated in the feces. The overall mean urinary elimination was c. 15% dose. Tissue radioactivity levels were consistently low and ranged between 0.46% dose to 1.25% dose for the single dose studies and a mean of 0.38% dose for the repeat dose study. Fluopicolide was extensively metabolized in the rat. The profile of metabolism of fluopicolide in the hen and the cow was similar to that in the rat, with the majority of the administered radioactivity being excreted (75–95%) leaving only low levels of residues in the tissues, milk and eggs. (Fluopicolide)

Rapidly absorbed and almost totally excreted (>90% in 24 hours), mainly via urine. Mineralization occurs via oxidation and hydrolytic decomposition. (Propamocarb hydrochloride)

**Plants:** The metabolism of fluopicolide has been investigated in grapes, potatoes and lettuce, following applications to the foliage and also for lettuce, following soil drench application. Fluopicolide is slowly metabolized in plants. The metabolic pathway was similar in all crops and in all cases fluopicolide was by far the major part of the residue at harvest. (Fluopicolide)

Mainly unchanged in plants. (Propamocarb hydrochloride)

Soil/Environment: Degradation of fluopicolide in a range of soil types produces three principal metabolites by initial hydroxylation of the aliphatic bridge, followed by further metabolism of the resulting two ring systems. Under field conditions fluopicolide and the phenyl metabolite had average DT<sub>50</sub> of c. 140 d in Europe, and 107 d (fluopicolide) and 30 d (dichlorophenyl metabolite) in the US (with allowance made for conditions of temperature and for moisture). Under sterile aqueous conditions in the laboratory, fluopicolide was found to be hydrolytically and photolytically stable. In laboratory water/sediment systems fluopicolide dissipates slowly from the water, mainly by adsorption to the sediment. The dichlorophenyl compound, which has no pesticidal activity and is known to be innocuous to aquatic organisms, was the only metabolite observed in significant quantities. (Fluopicolide) Rapidly degraded in soil by microbial processes, following a brief lag phase, DT<sub>50</sub> <30 d, DT<sub>90</sub> <70 d. Propamocarb hydrochloride is retained in the upper soil layer (4–20 cm) and little is found in leachate. Stable in aqueous medium, but rapidly degraded by aquatic micro-organisms (up to 97% in 35 d). It is adsorbed onto sediment, but with limited desorption. (Propamocarb hydrochloride)

## 14. DISPOSAL CONSIDERATIONS

### Waste Disposal

Pesticide wastes are acutely hazardous. Do not reuse product containers. Dispose product containers, waste containers, residues according local health and environmental regulations.

## 15. TRANSPORT INFORMATION

UN number: 3082.

Class and subsidiary risk: 9

Packing group: III

## 16. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

## 17. OTHER INFORMATION

The information contained herein relates only to the specific material identified. We believe that such information is accurate and reliable as of the date of this material safety data sheet, but no representation, guarantee or warranty, express or implied, is made as to the reliability or completeness of the information. Urge persons receiving this information to make their own determination as to the information's suitability and completeness for their particular application.

Chico Crop Science Co., Ltd.