

**Material Safety Data Sheet**

**Kasugamycin 2% + Propamocarb hydrochloride 28% AS**

**1. PRODUCT IDENTIFICATION/COMPANY IDENTIFICATION**

Product Name: Kasugamycin 2% + Propamocarb hydrochloride 28% AS  
 Common Name: Kasugamycin + Propamocarb hydrochloride  
 Chemical Name: [5-amino-2-methyl-6-(2,3,4,5,6-pentahydroxycyclohexyloxy)tetrahydropyran-3-yl]amino- $\alpha$ -iminoacetic acid(Kasugamycin)  
 Propyl [3-(dimethylamino)propyl]carbamate hydrochloride(Propamocarb hydrochloride)  
 Chemical Family: hexopyranosyl antibiotic(Kasugamycin)  
 Carbamate fungicide(Propamocarb hydrochloride)  
 Chemical Formula: C<sub>14</sub>H<sub>25</sub>N<sub>3</sub>O<sub>9</sub>(Kasugamycin)  
 C<sub>9</sub>H<sub>21</sub>ClN<sub>2</sub>O<sub>2</sub>(Propamocarb hydrochloride)  
 CAS No.: 6980 - 18 - 3(Kasugamycin)  
 25606-41-1(Propamocarb hydrochloride)  
 Product Use: Fungicide

**2. COMPANY IDENTIFICATION:**

**Exporter:**

CHICO CROP SCIENCE CO., LTD.

Add: Rm 903, Unit C, Tian An International Bldg., Renmin South Rd., Shenzhen, China.

Tel: 86-755-22969199 Fax: 86-755-25919993

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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

<u>Ingredient Name</u>	<u>CAS Registry Number</u>	<u>Typical Wt. % w/w</u>
Kasugamycin	6980 - 18 - 3	2
Propamocarb hydrochloride	25606-41-1	28
Inert	-	to 100%

**4. HAZARDS IDENTIFICATION**

**Emergency Overview**

Green homogeneous liquid with not distinct odor.

CAUTION!



KEEP OUT OF REACH OF CHILDREN  
MAY CAUSE EYE AND SKIN IRRITATION  
MAY CAUSE ALLERGIC SKIN REACTION.

## 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: 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 the advice of a physician.
- 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, the solvent is water.

### Extinguishing Media

Water fog, Carbon Dioxide, Dry Chemical, Foam.

### Fire Fighting Instructions

The product is not flammable. But if firing, fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear and self-contained breathing apparatus. Fire fighting 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**

Keep container tightly closed in a cool, dry and ventilated place. Keep away from fire, heat and sparks.

## 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:	Green
Physical state:	liquid
Odor:	not distinct odor.

Melting point:	202–204 °C (decomp.)(kasugamycin hydrochloride hydrate) 64.2 °C(Propamocarb hydrochloride)
Vapor pressure:	<math>1.3 \times 10^{-2}</math> mPa (25 °C) (kasugamycin hydrochloride hydrate) <math>3.8 \times 10^{-2}</math> mPa (20 °C) (Propamocarb hydrochloride)
Solubility in water:	In water 207 (pH 5), 228 (pH 7), 438 (pH 9) (all in g/l, 25 °C).(kasugamycin hydrochloride hydrate) In water >500 g/l (pH 1.6–9.6, 20 °C) (Propamocarb hydrochloride)
Solubility in organic solvents:	In methanol 2.76, acetone, xylene <1 (all in mg/kg, 25 °C).(kasugamycin hydrochloride hydrate) 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:	Kow logP <1.96 (pH 5, 23 °C) (kasugamycin hydrochloride hydrate) Kow logP =-1.21 (pH 7). (Propamocarb hydrochloride)

## 11. STABILITY AND REACTIVITY

### Stability

Very stable at room temperature. Stable in weak acids, but unstable in strong acids and alkalis. DT<sub>50</sub> (50 °C) 47 d (pH 5), 14 d (pH 9). (Kasugamycin)  
Stable to hydrolysis and to photolysis.(Propamocarb hydrochloride)

### Hazardous Polymerization

Does not occur

### Incompatibility

This product is incompatibility with alkali pesticides.

### Hazardous Decomposition Products

Not available

## 12. TOXICOLOGICAL INFORMATION

<b>Acute Oral:</b>	Acute oral LD <sub>50</sub> for male rats >5000 mg/kg. (kasugamycin hydrochloride hydrate). Acute oral LD <sub>50</sub> for rats 2000 - 2900, mice 2650 - 2800, dogs c. 1450 mg/kg.
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<b>Acute Dermal:</b>	(Propamocarb hydrochloride) Acute percutaneous LD <sub>50</sub> for rabbits >2000 mg/kg. (kasugamycin hydrochloride hydrate) Acute percutaneous LD <sub>50</sub> for rats and mice >3000 mg/kg. (Propamocarb hydrochloride)
<b>Irritation:</b>	Non-irritating to eyes and skin (rabbits). (kasugamycin hydrochloride hydrate) Not a skin or eye irritant (rabbits). (Propamocarb hydrochloride)
<b>Sensitisation:</b>	Not a skin sensitiser.(kasugamycin hydrochloride hydrate) Sensitising to the skin (guinea pigs). (Propamocarb hydrochloride)
<b>Long-term Studies:</b>	Non-mutagenic and non-teratogenic in rats, and without effect on reproduction.(kasugamycin hydrochloride hydrate) 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

#### Kasugamycin hydrochloride hydrate

Effects on Birds:	Acute oral LD <sub>50</sub> for male Japanese quail >4000 mg/kg.
Effects on Fish:	LC <sub>50</sub> (48 h) for carp and goldfish >40 mg/l.
Daphnia:	LC <sub>50</sub> (6 h) >40 mg/l.
Bees:	LD <sub>50</sub> (contact) >40µg/bee.

#### Propamocarb hydrochloride:

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

### Environment Fate Information:

#### Animals:

Kasugamycin hydrochloride hydrate, orally administered to rabbits, was mostly excreted in the urine within 24 hours. When injected intravenously to dogs, it was mostly excreted within 8 hours. After oral administration to rats at 200 mg/kg, no residues were detected in eleven organs or blood; 96% of administered dose remained in the digestive tract 1 hour after administration.(kasugamycin)

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

#### **Plants:**

Degraded to kasugamycinic acid and kasuganobiosamine; finally degraded to ammonia, oxalic acid, CO<sub>2</sub> and water.(kasugamycin)

Mainly unchanged in plants.(Propamocarb hydrochloride)

#### **Soil/Environment:**

Degradation proceeds as in plants.(kasugamycin)

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**

N/A

## **16. REGULATORY INFORMATION**

Risk phrases: Harmful if Swallowed ;

Safety phrases: Keep out of reach of children.

## **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.