

## Material Safety Data Sheet

### Emamectin Benzoate 1.8% + Tolfenpyrad 10% SC

#### 1. PRODUCT IDENTIFICATION

Product Name: Emamectin Benzoate 1.8% + Tolfenpyrad 10% SC  
 Common Name: Emamectin Benzoate + Tolfenpyrad  
 Chemical Family: Avermectin (Emamectin Benzoate)  
 Acaricide (Tolfenpyrad)  
 Chemical Formula: C<sub>56</sub>H<sub>81</sub>NO<sub>15</sub> (B<sub>1a</sub>); C<sub>55</sub>H<sub>79</sub>NO<sub>15</sub> (B<sub>1b</sub>) (Emamectin Benzoate)  
 C<sub>21</sub>H<sub>22</sub>ClN<sub>3</sub>O<sub>2</sub> (Tolfenpyrad)  
 Chemical Name: No available (Emamectin Benzoate)  
 4-chloro-3-ethyl-1-methyl-N-[4-(*p*-tolylloxy)benzyl]pyrazole-5-carboxamide (Tolfenpyrad)  
 CAS No.: 155569-91-8 (Emamectin Benzoate)  
 129558-76-5 (Tolfenpyrad)  
 Product Use: Insecticide

#### 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>
Emamectin Benzoate	155569-91-8	1.8%
Tolfenpyrad	129558-76-5	10%
Inert	---	to balance

#### 4. HAZARDS IDENTIFICATION

**Emergency Overview**

Off-white homogeneous 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:	141–146 °C (Emamectin Benzoate); 87.8–88.2 °C (Tolfenpyrad).
Boiling point:	N/A (Emamectin Benzoate); N/A (Tolfenpyrad).
Vapor pressure:	$4 \times 10^{-3}$ mPa (21 °C) (Emamectin Benzoate); $5 \times 10^{-4}$ mPa (25 °C) (Tolfenpyrad)
Solubility in water:	In water 0.024 g/l (pH 7, 25°C). (Emamectin Benzoate); In water 0.087 mg/l (25 °C). (Tolfenpyrad).
Solubility in organic solvents:	No data available (Emamectin Benzoate); In <i>n</i> -hexane 7.41, toluene 366, methanol 59.6, acetone 368, ethyl acetate 339 (all in g/l, 25 °C). (Tolfenpyrad).
Partition coefficient:	$K_{ow} \log P = 5.0$ (pH 7) (Emamectin Benzoate); $K_{ow} \log P = 5.61$ (25 °C) (Tolfenpyrad).

## 11. STABILITY AND REACTIVITY

### Stability

Stable to hydrolysis at pH 5, 6, 7 and 8 (25 °C). Photodegrades rapidly. (Emamectin Benzoate);  
Stable to hydrolysis for 5 d at pH 4–9 (50 °C). (Tolfenpyrad)

### 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

**Acute Oral:** Acute oral LD<sub>50</sub> for rats 56–63 mg/kg. (Emamectin Benzoate);  
Acute oral LD<sub>50</sub> for male rats 260–386, female rats 113–150, male mice 114, female mice 107 mg/kg. (Tolfenpyrad)

**Acute Dermal:** Acute dermal LD<sub>50</sub> for rats >2000 mg/kg. (Emamectin Benzoate);  
Acute percutaneous LD<sub>50</sub> for male rats >2000, female rats >3000 mg/kg. (Tolfenpyrad)

**Irritation:** Not irritant to skin; severe eye irritant. (Emamectin Benzoate);  
Slightly irritating to eyes and skin (rabbits). (Tolfenpyrad)

- Sensitization:** No sensitizing potential. (Emamectin Benzoate).  
Not a skin sensitizer (guinea pigs). (Tolfenpyrad)
- Long-term Studies:** NOEL (1 y) for dogs 0.25 mg/kg b.w. Not tumorigenic. (Emamectin Benzoate).  
NOEL (2y) for male rats 0.561, female rats 0.686 mg/kg b.w.; (78 w) for male mice 2.2 mg/kg b.w., female mice 2.8 mg/kg b.w.; (1 y) for male and female dogs 1 mg/kg b.w.. Not carcinogenic, teratogenic or mutagenic. (Tolfenpyrad)

## 13. ECOLOGICAL INFORMATION

### Ecotoxicological Information

#### Emamectin Benzoate

- Effects on Birds: Acute oral LD<sub>50</sub> for mallard ducks 76, bobwhite quail 264 mg/kg. Dietary LC<sub>50</sub> (8 d) for mallard ducks 570, bobwhite quail 1318 ppm.
- Effects on Fish: LC<sub>50</sub> (96 h) for rainbow trout 174, sheepshead minnows 1430 µg/l.
- Effects on Daphnia: LC<sub>50</sub> (48 h) 0.99 µg/l.
- Effects on Algae: No data available.
- Effects on Bees: Toxic to bees.

#### Tolfenpyrad

- Effects on Birds: No data available.
- Effects on Fish: LC<sub>50</sub> (96 h) for carp 0.0029 mg/l.
- Effects on Daphnia: LC<sub>50</sub> (48 h) 0.0010 mg/l.
- Effects on Algae: E<sub>b</sub>C<sub>50</sub> (72 h) for green algae >0.76 mg/l.
- Effects on Bees: No data available.

### Chemical Fate Information

**Animals:** Emamectin benzoate is partially metabolized but rapidly cleared (DT<sub>50</sub> following oral dosing 34–51 h), indicating that it has no potential for bioaccumulation. (Emamectin Benzoate)

Following oral administration to rats, ≥80% was eliminated within 72 h, mainly in faeces. Tolfenpyrad was quickly metabolized to give many metabolites. Major metabolic pathway: amide hydrolysis, oxidation of alkyl moiety and their combinations. (Tolfenpyrad)

**Plants:** Metabolism has been investigated in lettuce, cabbage and sweetcorn. It is non-systemic, and rapidly degrades in sunlight to various complex residues in which undegraded parent is the only significant residue. The residues were very low. (Emamectin Benzoate)

In cabbage, peach anaubergines, tolfenpyrad was not systemic and gradually metabolized in plant to give many minor metabolites. Major metabolic pathway: amide hydrolysis, oxidation of alkyl moiety and their combinations. (Tolfenpyrad)

Soil/Environment: Rapidly degraded. (Emamectin Benzoate)

DT<sub>50</sub> (aerobic) 3–5 d, (anaerobic) 127–179 d (2 soil types); degradation proceeds by oxidation of the tolyl methyl or of the ethyl group, cleavage of the tolyloxybenzyl group and cleavage of the amide bond, ultimately forming CO<sub>2</sub>. K<sub>ads</sub> 722–1522, K<sub>oc</sub> 15.1 × 10<sup>3</sup> to 149 × 10<sup>3</sup>. (Tolfenpyrad)

## 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: Division 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.