

## Material Safety Data Sheet Indoxacarb 8% + Emamectin Benzoate 10% WP

### 1. PRODUCT IDENTIFICATION

Product Name: Indoxacarb 8% + Emamectin Benzoate 10% WP  
 Common Name: Indoxacarb + Emamectin Benzoate  
 Chemical Family: oxadiazine (Indoxacarb);  
 avermectin (Emamectin Benzoate)  
 Chemical Formula: C<sub>22</sub>H<sub>17</sub>ClF<sub>3</sub>N<sub>3</sub>O<sub>7</sub> (Indoxacarb);  
 C<sub>49</sub>H<sub>75</sub>NO<sub>13</sub> (B<sub>1a</sub>); C<sub>48</sub>H<sub>73</sub>NO<sub>13</sub> (B<sub>1b</sub>) (Emamectin Benzoate)  
 Chemical Name: methyl (S)-N-[7-chloro-2,3,4a,5-tetrahydro-4a-(methoxycarbonyl)indeno[1,2-e][1,3,4]oxadiazin-2-ylcarbonyl]-4'-(trifluoromethoxy)carbanilate (Indoxacarb);  
 Not available (Emamectin Benzoate)  
 CAS No.: 144171-61-9 (Indoxacarb);  
 155569-91-8 (Emamectin Benzoate).  
 Product Use: Insecticide

### 2. COMPANY IDENTIFICATION:

**Exporter:**

CHICO CROP SCIENCE CO., LTD.

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 Shenzhen, China.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

| <u>Ingredient Name</u> | <u>CAS Registry Number</u> | <u>Typical Wt.</u> |
|------------------------|----------------------------|--------------------|
| Indoxacarb             | 144171-61-9                | 8%                 |
| Emamectin Benzoate     | 155569-91-8                | 10%                |
| Inert                  | -                          | to balance         |

### 4. HAZARDS IDENTIFICATION

**Emergency Overview**

White or light yellow powder.

**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: If ingestion is suspected, using one or two glasses of water and induce vomiting by touching back of throat with finger. 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 and halogenated agents.

### 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 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: White or light yellow

|                                 |  |
|---------------------------------|--|
| Physical state:                 | powder   |
| Odor:                           | not distinct odor  |
| Melting point                   | 88.1 °C (DPX-KN128); 140–141 °C (DPX-JW062) (EU Rev. Rep.);<br>87.1–141.5 °C (DPX-MP062) (Indoxacarb);<br>141–146 °C (Emamectin Benzoate)  |
| Boiling point:                  | Not available.(Indoxacarb);<br>Not available.(Emamectin Benzoate)  |
| Decomposition point:            | Not available.(Indoxacarb);<br>Not available.(Emamectin Benzoate)  |
| Vapor pressure:                 | 2.5 × 10 <sup>-5</sup> mPa (25 °C) (Indoxacarb);<br>4 × 10 <sup>-3</sup> mPa (21 °C) (Emamectin Benzoate)  |
| Density:                        | 1.44 (20 °C) (Indoxacarb);<br>1.20 (23 °C) (Emamectin Benzoate)  |
| Solubility in water             | In water 0.20 mg/l (25 °C) (DPX-KN128); 15 mg/l (25 °C) (DPX-JW062); 22.5 µg/l (20 °C) (DPX-MP062). (Indoxacarb);<br>In water 0.024 g/l (pH 7, 25°C). (Emamectin Benzoate)   |
| Solubility in organic solvents: | In n-octanol 14.5 g/l, methanol 103 g/l, acetonitrile 139 g/l, acetone >250 g/kg (25 °C) (DPX-KN128); n-heptane 1.72, n-octanol 14.5, methanol 103, o-xylene 117 (all in mg/ml, 25 °C), dichloromethane, acetone and dimethylformamide >250 (all in g/kg, 25 °C) (DPX-MP062) . (Indoxacarb);<br>Not available.(Emamectin Benzoate) |
| Partition coefficient:          | K <sub>ow</sub> logP= 4.65 (Indoxacarb);<br>K <sub>ow</sub> logP =5.0 (pH 7) (Emamectin Benzoate)  |

## 11. STABILITY AND REACTIVITY

### Stability

Aqueous hydrolysis DT<sub>50</sub> 1 y (pH 5), 22 d (pH 7), 0.3 h (pH 9) (25 °C) (DPX-KN128 and DPX-MP062). (Indoxacarb);

Stable to hydrolysis at pH 5, 6, 7 and 8 (25 °C). Photodegrades rapidly. (Emamectin Benzoate)

### Hazardous Polymerization

Does not occur.

### Incompatibility

The product is not compatible with alkaline material.

### Hazardous Decomposition Products

Not available

## 12. TOXICOLOGICAL INFORMATION

|                           |   |
|---------------------------|---|
| <b>Acute Oral:</b>        | DPX-MP062: Acute oral LD <sub>50</sub> for male rats 1732, female rats 268 mg/kg. (Indoxacarb);<br>Acute oral LD <sub>50</sub> for rats 56–63 mg/kg. (Emamectin Benzoate) |
| <b>Acute Dermal:</b>      | DPX-MP062: Acute percutaneous LD <sub>50</sub> for rabbits >5000 mg/kg. (Indoxacarb);<br>Acute dermal LD <sub>50</sub> for rats >2000 mg/kg. (Emamectin Benzoate)         |
| <b>Irritation:</b>        | No eye or skin irritation (rabbits). (Indoxacarb);<br>Not irritant to skin; severe eye irritant. (Emamectin Benzoate)   |
| <b>Sensitisation:</b>     | Dermal sensitiser (guinea pigs). (Indoxacarb);<br>No sensitising potential. (Emamectin Benzoate)  |
| <b>Inhalation:</b>        | DPX-KN128: LC <sub>50</sub> for rats >2 mg/l. (Indoxacarb)<br>LC <sub>50</sub> (4 h) for rats >1.05–0.66 mg/l. NOEL (1 y) for dogs 0.25 mg/kg b.w. (Emamectin Benzoate)   |
| <b>Long-term Studies:</b> | Negative in the Ames test. (Indoxacarb)<br>Not tumorigenic. (Emamectin Benzoate)  |

## 13. ECOLOGICAL INFORMATION

### Ecotoxicological Information

#### Indoxacarb:

|                   |   |
|-------------------|---|
| Effects on Birds: | DPX-MP062: Acute oral LD <sub>50</sub> for bobwhite quail 98 mg/kg. Dietary LC <sub>50</sub> (5 d) for mallard ducks >5620, bobwhite quail 808 ppm. |
| Effects on Fish:  | DPX-MP062: LC <sub>50</sub> (96 h) for bluegill sunfish 0.9, rainbow trout 0.65 mg/l.   |
| Daphnia:          | DPX-MP062: LC <sub>50</sub> (48 h) 0.60 mg/l.   |
| Algae:            | DPX-MP062: EC <sub>50</sub> (96 h) >0.11 mg/l (EU Rev. Rep.).   |
| Bees:             | DPX-MP062: LD <sub>50</sub> (oral) 0.26 µg/bee; (contact) 0.094 µg/bee. (EU Rev. Rep.).   |
| Worms:            | DPX-MP062: LC <sub>50</sub> (14 d) >1250 mg/kg.   |

#### Emamectin Benzoate :

|                   |   |
|-------------------|---|
| Effects on Birds: | Acute oral LD <sub>50</sub> for mallard ducks 76, bobwhite quail 264 mg/kg.<br>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.  |
| Daphnia:          | LC <sub>50</sub> (48 h) 0.99 µg/L.  |
| Bees:             | Toxic to bees.  |
| Worms:            | LC <sub>50</sub> >1000 mg/kg dry soil.  |

### Chemical Fate Information

#### Indoxacarb:

Animals: Metabolism in rats after oral dosing was studied using both DPX-JW062 and DPX-MP062. Most of the dose was excreted within 96 hours. Extensive metabolism to numerous minor metabolites occurs. In urine, metabolites were cleaved

products (indane or trifluoromethoxyphenyl ring products), whilst, in faeces, major metabolites retained both these moieties. Major metabolic reactions included hydroxylation of the indane ring, hydrolysis of the carboxymethyl group from the amino nitrogen, and opening of the oxadiazine ring, which gave rise to cleaved products.

Soli/Environment: DT<sub>50</sub> 17 d in tama silt loam soil. Indoxacarb is considered to be moderately persistent; aerobic DT<sub>50</sub> 3–23 d, anaerobic DT<sub>50</sub> 186 d. It is considered to be immobile; K<sub>oc</sub> 3300–9600 ml/g. K<sub>d</sub> 26–95 l/kg (EU Rev. Rep.). DT<sub>50</sub> for aquatic photolysis 3.0 d (pH 5.0).

### **Emamectin Benzoate :**

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

Plants: Metabolism has been investigated in lettuce, cabbage and sweet corn. 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.

Soli/Environment: Rapidly degraded.

## 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

Not available.

## 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.