Material Safety Data Sheet
Abamectin 3% + Dibenzoyl-1-tert-butylhydrazine 30% WP

1. PRODUCT IDENTIFICATION

Product Name: Abamectin 3% + Dibenzoyl-1-tert-butylhydrazine 30% WP
Common Name: Abamectin + Dibenzoyl-1-tert-butylhydrazine
Chemical Family: avermectin (Abamectin);
Not available (Dibenzoyl-1-tert-butylhydrazine)
Chemical Formula: $C_{48}H_{72}O_{14}$ (avermectin B1a); C47H70O14 (avermectin B1b) (Abamectin);
$C_{18}H_{20}N_2O_2$ (Dibenzoyl-1-tert-butylhydrazine)
Chemical Name: 5-O-demethylavermectin A1a (i) mixture with 5-O-demethyl-25-de(1-methylpropyl)-25-(1-methylethyl)avermectin A1a (ii) (Abamectin);
benzoic acid 2-benzoyl-1-(1,1-dimethylethyl)hydrazide (Dibenzoyl-1-tert-butylhydrazine)
CAS No.: [71751–41–2] abamectin; [65195–55–3] (i); [65195–56–4] (ii) (Abamectin);
112225–87–3 (Dibenzoyl-1-tert-butylhydrazine).
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
E-mail: chico1@chicocrop.com

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient Name	CAS Registry Number	Typical Wt.
Abamectin	71751–41–2	3%
Dibenzoyl-1-tert-butylhydrazine	112225–87–3	30%
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: Rinse mouth with water. 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. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

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.

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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. Ventilated 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.

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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 PROPTERTIES

Color:	White or light yellow powder.
Physical state:	powder
Odor:	No pungent odor
Melting point	150-155°C (Abamectin); 174-176 °C (Dibenzoyl-1-tert-butylhydrazine)
Boiling point:	Not available. (Abamectin); Not available. (Dibenzoyl-1-tert-butylhydrazine)
Vapor pressure:	< 3.7 × 10-3 mPa (25 °C) (Abamectin); 0.24 mPa (21 °C) (Dibenzoyl-1-tert-butylhydrazine)
Density:	1.18 (22 °C) (Abamectin); Not available. (Dibenzoyl-1-tert-butylhydrazine)
Solubility in water:	In water 1.21 mg/l (25 °C) (Abamectin); In water 50 mg/l. (Dibenzoyl-1-tert-butylhydrazine)
Solubility in organic solvents:	In toluene 23, acetone 72, methanol 13, octanol 83, ethyl acetate 160, dichloromethane 470, hexane 0.11 (all in g/l, 25 °C). (Abamectin); In cyclohexanone c. 50, mesityl oxide c. 150 g/l. (Dibenzoyl-1-tert-butylhydrazine)
Partition coefficient:	K_{ow} logP= 4.4±0.3 (pH 7.2, room temperature) (Abamectin); K_{ow} logP =2.326 (Dibenzoyl-1-tert-butylhydrazine)

11. STABILITY AND REACTIVITY

Stability

Stable to hydrolysis in aqueous solutions at pH 5, 7, and 9 (25 °C). Sensitive to stronger acid and base. UV irradiation causes conversion first to the 8,9-Z- isomer, then to unidentified decomposition products. (Abamectin);

Stable under normal storage conditions. (Dibenzoyl-1-tert-butylhydrazine)

Hazardous Polymerization

Does not occur.

Incompatibility

The product is not compatible with alkaline material.

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Hazardous Decomposition Products

Not available

12. TOXICOLOGICAL INFORMATION

Acute Oral: Acute oral LD_{50} (in sesame oil) for rats 10, mice 13.6 mg/kg; (in water) for rats 221 mg/kg. (Abamectin);
Acute oral LD_{50} for rats 435 mg/kg. (Dibenzoyl-1-tert-butylhydrazine)

Acute Dermal: Acute percutaneous LD_{50} for rabbits >2000 mg/kg. (Abamectin);
Acute dermal LD_{50} for rats >5000 mg/kg. (Dibenzoyl-1-tert-butylhydrazine)

Irritation: Mild eye irritant; non-irritating to skin (rabbits). (Abamectin);
Not irritant to skin or eyes of rabbits. (Dibenzoyl-1-tert-butylhydrazine)

Sensitization: Non-irritating to skin (rabbits). (Abamectin);
No sensitizing potential. (Dibenzoyl-1-tert-butylhydrazine)

Long-term Studies: Non-mutagenic in the Ames test. (Abamectin)
Not available. (Dibenzoyl-1-tert-butylhydrazine)

13. ECOLOGICAL INFORMATION

Ecotoxicological Information

Abamectin:

Birds: Acute oral LD_{50} for mallard ducks 84.6, bobwhite quail >2000 mg/kg.

Fish: LC_{50} (96 h) for rainbow trout 3.2, bluegill sunfish 9.6 μg/l. Daphnia EC_{50} (48h) 0.34 ppb. Algae: EC_{50} (72 h) for Pseudokirchneriella subcapitata >100 mg/l.

Bees: Toxic to bees.

Worm: LC_{50} (28 d) for earthworms 28 mg/kg soil.

Dibenzoyl-1-tert-butylhydrazine:

Birds: Dietary LC_{50} (8 d) for mallard ducks and quail >5000 mg/kg diet.

Fish: LC_{50} (96 h) for bluegill sunfish and trout >100 mg/l.

Daphnia: LC_{50} (48 h) 7 mg/l; for life cycle 0.5–0.7 mg/l.

Bees: LD_{50} (contact) >0.1 μg/bee.

Chemical Fate Information

Abamectin:

Animals: Rapidly eliminated (80–100% in 96 h), mainly via faeces; urinary excretion was 0.5–1.4%.

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Plants: Degradation/metabolism in each of three different plants is similar and occurs predominantly by photolysis on the plant surfaces. The definition of the residues is thus expressed as the combined residues of avermectin B1 and its 8,9-Z-avermectin B1 photoisomer.

Soli/Environment: Binds tightly to soil, with rapid degradation by soil micro-organisms. No bioaccumulation.

Dibenzoyl-1-tert-butylhydrazine:

Animals: Not available.

Plants: Not available.

Soli/Environment: In silt loam DT_{50} 27 d (23 °C).

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.

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