

MATERIAL SAFETY DATA SHEET **CIERTO**

Section 1. Company Identification and Chemical Product

Manufacturer: Jinan Zhongke Green Biotechnology Co., Ltd.

Address: No.19, Qianfoshan Dong'er Road, Lixia District, Jinan City, Shandong Province, P.R.China.

Product Name: Abamectin 2% + Etoxazole 10% SC

Function: Insectide

Chemical Name of Active Ingredient (IUPAC):

Abamectin:

Avermectin B1a

(10E,14E,16E,22Z)-(1R,4S,5'S,6S,6'R,8R,12S,13S,20R,21R,24S)-6'-[(S)-sec-butyl]-21,24-dihydroxy-5',11,13,22-tetramethyl-2-oxo-3,7,19-trioxatetracyclo[15.6.1.14,8.020,24]pentacos-10,14,16,22-tetraene-6-piro-2'-(5',6'-dihydro-2'Hpyran)-12-yl 2,6-dideoxy-4-O-(2,6-dideoxy-3-Omethyl- α -L-arabino-hexopyranosyl)-3-O-methyl- α -L-arabino-Hexopyranoside

Avermectin B1b

(10E,14E,16E,22Z)-(1R,4S,5'S,6S,6'R,8R,12S,13S,20R,21R,24S)-21,24-dihydroxy-6'-isopropyl-5',11,13,22-tetramethyl-2-oxo-3,7,19-trioxatetracyclo[15.6.1.14,8.020,24]pentacos-10,14,16,22-tetraene-6-spiro-2'-(5',6'-dihydro-2'Hpyran)-12-yl 2,6-dideoxy-4-O-(2,6-dideoxy-3-Omethyl- α -L-arabino-hexopyranosyl)-3-O-methyl- α -L-arabino-

Hexopyranoside

Ettoxazole:

(RS)-5-tert-butyl-2-[2-(2,6-difluorophenyl)-4,5-dihydro-1,3-oxazol-4-yl]phenetole

Chemical Formula of Active Ingredient:

Abamectin:

B1a: C₄₈H₇₄O₁₄(R=C₂H₅); C₄₇H₇₀O₁₄(ii)

B1b: C₄₇H₇₂O₁₄(R=CH₃)

Ettoxazole: C₂₁H₂₃F₂NO₂

CAS Registry Number of Active Ingredient:

Abamectin:

71751-41-2 (abamectin)

65195-55-3 (avermectin B1a)

65195-56-4 (avermectin B1b)

Ettoxazole:

153233-91-1

Section 2. Composition/Information on Ingredients

Component	CAS Number	Content
Abamectin	71751-41-2	2%
Ettoxazole	153233-91-1	10%

Other inert ingredients

Not Available

Balance to 100%

Section 3. Hazards Identification

Routes of exposure: Ingestion, inhalation, skin contact

Health hazards:

Toxic if swallowed.

Harmful if inhaled.

Highly toxic to aquatic organisms.

Section 4. First Aid Measures

Inhalation: Move the victim to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a doctor or Poisons Information Centre immediately.

Skin contact: Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash contaminated clothing before re-use.

Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

Ingestion: If swallowed, seek medical advice immediately and show this container or label. DO NOT induce vomiting.

Advice to physician: There is no specific antidote available. Treat symptomatically.

Section 5. Fire Fighting Measures

Extinguishing agents: *Extinguishing media - small fires*

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Extinguishing media - large fires

Alcohol-resistant foam or water spray.

Do not use a solid water stream as it may scatter and spread fire.

Special hazards: As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10). Exposure to decomposition products may be a hazard to health .

Personal protective equipment: Wear full protective clothing and self-contained breathing apparatus.

Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.

Section 6. Accidental Release Measures

Emergency Procedures: In case of spillage it is important to take all steps necessary to

- Avoid eye and skin contact
- Avoid contamination of waterways

Methods and Materials for Containment and Clean Up:

Procedure for spill

- (1) Keep all bystanders away .
- (2) Wear full length clothing and PVC gloves .
- (3) Reposition any leaking containers so as to minimise further leakage .
- (4) Dam and absorb spill with an absorbent material (eg sand or soil) .
- (5) Shovel the absorbed spill into drums .
- (6) Disposal of the absorbed material will depend upon the extent of the spill .
 - For quantities up to 50 L of product bury in a secure landfill site .
 - For quantities greater than 50 L seek advice from the manufacturer (use emergency contact number below) before attempting disposal. Contain in a secure location until disposal method is established .
- (7) Decontaminate spill area with detergent and water and rinse with the smallest volume of water practicable .

Section 7. Handling and Storage

Handling: May irritate the eyes. Facial skin contact may cause temporary facial numbness. Avoid contact with eyes. When preparing the slurry and using the prepared slurry, wear:

- chemical resistant clothing buttoned to the neck, wrist and ankles
- washable hat
- elbow length chemical resistant gloves

When undertaking bagging sewing activities, wear:

- cotton overalls over normal clothing buttoned to the neck and wrist
- half facepiece respirator with dust cartridge or canister

When handling treated seed, wear:

- elbow length chemical resistant gloves
- half facepiece respirator with dust cartridge or canister

If product on skin, immediately wash area with soap and water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, and contaminated clothing.

Storage: Store in closed original container in a cool, well ventilated area. DO NOT store for prolonged periods in direct sunlight.

Section 8. Exposure Controls/Personal Protection

Engineering control measures: Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. The extent of these protection measures

depends on the actual risks in use. If airborne mists or vapours are generated, use local exhaust ventilation controls. Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit.

Where necessary, seek additional occupational hygiene advice.

PERSONAL PROTECTIVE EQUIPMENT:

Clothing: When preparing the slurry and using the prepared slurry, wear:

- chemical resistant clothing buttoned to the neck, wrist and ankles
- washable hat
- elbow length chemical resistant gloves

When undertaking bagging sewing activities, wear:

- cotton overalls over normal clothing buttoned to the neck and wrist
- half facepiece respirator with dust cartridge or canister

When handling treated seed, wear:

- elbow length chemical resistant gloves
- half facepiece respirator with dust cartridge or canister

Eye protection: Where eye contact is likely, use chemical splash goggles.

Skin Protection: Where contact is likely, wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.

Hand Protection: The use of chemical-resistant gloves to prevent skin contact is recommended as good practice.

Section 9. Physical and Chemical Properties

Appearance: White liquid .

Odour: Faint chemical odour.

pH: 5.0-9.0

Density : 1.10 ± 0.02 g/ml .

Solubility in water: suspension in water .

Oxidising properties: Not oxidizing

Explosive properties: Non-explosive.

Suspensibility / emulsifiability: 90% min. Stable.

Persistent foaming: 25 ml after 1 minute

Stability: stable in cold and heat storage conditions.

Section 10. Stability and Reactivity

Stability: Stable under normal conditions.

Incompatibility: None known.

Thermal decomposition: Combustion or thermal decomposition will evolve toxic and irritant vapours.

Section 11. Toxicological Information

Acute oral LD50 : >300 - 2000mg/kg in rats.

Acute dermal LD50 : >2000 mg/kg in rats .

Acute inhalation LC50 : >3.2 mg/L in rats .

Acute skin irritation: Non-irritating.

Acute eye irritation: Non-irritating.

Dermal sensitisation: Not a sensitizer.

Section 12. Ecological Information

ECOTOXICOLOGY:

Bird:

Lowly toxic to birds. LD50 >2000 mg/kg b.w (Japanese quail).

Fish:

Highly toxic to fish. LC₅₀ (96 h) for zebrafish: 0.30 mg/l.

Daphnia:

Extremely high toxicity to daphnia. EC₅₀ (48 h) 0.00011 mg/l.

Algae

Lowly toxic to algae. EC₅₀(72h) for *Selenastrum capricornutum*: 12 mg/l.

Earthworms

Lowly toxic to earthworm. LC₅₀ (14 hs) for *Eisenia foetida*: 31.9 mg/kg dw

Bees:

Highly toxic to bees by contact and oral application. Avoid spraying while bees are foraging.

Section 13. Disposal Considerations

Disposal Methods and Containers: If not recycling, triple rinse, break, crush or puncture and deliver empty packaging for appropriate disposal at an approved waste management facility. If an approved waste management facility is not available bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory government regulations. Empty containers and product must not be burnt.

Special Precautions for Landfill or Incineration: Not applicable .

Section 14. Transport Information

UN Number: 3082

Class: 9

Packing Group: III

Section 15. Regulator Information

Risk phrases:

R25: toxic if swallowed.

R50: Very toxic to aquatic organisms.

R57: toxic to bees

Safety phrases:

S2: Keep out of the reach of children

S36/37: Wear suitable protective clothing and gloves

S39: Wear eye/face protection

S60: This material and its container must be disposed of as hazardous waste

S61: Avoid release to the environment. Refer to special instructions/safety data sheet

Section 16. Other Information

Disclaimer: The information provided by Jinan Zhongke Green Biotechnology Co., Ltd.

Address: No.19, Qianfoshan Dong'er Road, Lixia District, Jinan City, Shandong Province, P.R.China. Contained herein is given in good faith and to the best of our knowledge. However, no warranty is expressed or implied.

Prepared by: Registration Department

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