



Subject: MAKHRO AGRO (PTY) LTD *MAKHROMECTIN*
Document no: 119VK
Effective Date: November 2006
Co Reg No 94/019/73/07
Revision no: September 2009
Product Code: IABA18EC/UM

MATERIAL SAFETY DATA SHEET

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1. IDENTIFICATION OF PRODUCT AND COMPANY

Product Name: MAKHROMECTIN

Insecticide

UN No. 2903

Supplier: Makhro Agro (Pty) LTD

PO Box 498

Brackenfell, 7560, Cape Town, South Africa

Telephone: (021) 982 1460

Fax: (021) 982 5810

Website: www.makhro.co.za

24 Hour Emergency response:

Jan Van Graan: 082 807 7102

In case of Poisoning:

Tygerberg Poisoning Information Centre: (021) 931 6127

Red Cross Poisoning Information Centre: (021) 689 5227

Griffon Poison Information Centre: (082 446 8946)

2. COMPOSITION / INFORMATION ON INGREDIENTS

Common Name: Abamectin / avermectin

CAS No.: 71751-41-2 (Abamectin)

Chemical Family: avermectin

Composition: A mixture containing

≥ 80% Abamectin B1a and

≤ 20% Abamectin B1b.

Chemical Formula: B1a: C₄₈H₇₂O₁₄ (Mol. wt.: 873.1)

B1b: C₄₇H₇₀O₁₄ (Mol. wt.: 860.1)

Use: Insecticide and acaricide with contact and stomach action and limited plant systemic activity, but exhibits translaminar movement.

Formulation: Abamectin: 18 g/l

Emulsifiable Concentrate

Hazardous component: Abamectin



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Inert: concern: % present:

Abamectin harmful 2 %

Light aromatic solvent harmful 78 %

SYMBOLS: F, Xi, Xn

RISK-PHRASE(S): R 10, R 20/22, R 36/37/38, R 41,

R 43, R 48

3. HAZARD IDENTIFICATION

Likely routes of exposure:

Harmful if swallowed or absorbed through the skin. Toxic if inhaled.

Swallowed:

Harmful when swallowed. If large amounts are swallowed and aspiration of the solvent into the lungs occurs, chemical pneumonitis may develop. Small amounts of product aspirated into the respiratory system during ingestion or vomiting may cause mild to severe pulmonary injury.

Skin contact:

Harmful by skin contact. Mild irritant. Can cause dermatitis through defatting of tissue. May cause skin sensitization.

Eye contact:

Product is a mild irritant to eyes and may cause damage.

Inhalation:

Product is toxic when inhaled.

4. FIRST AID MEASURES AND PRECAUTIONS

Inhalation:

Remove patient from source of poisoning to a well ventilated area and keep him calm and reassured. Keep air passages open. Get medical attention immediately.

Skin contact:

Remove contaminated clothing and rinse contaminated body area with plenty of soap and cold water. Do not rub the skin. Get medical attention if necessary.

Eye contact:

Flush contamination out of eyes for 15 minutes or longer with clean water. Get medical attention if necessary.



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Ingestion:

Do not induce vomiting due to the solvent. Do not give anything by mouth. Obtain medical attention immediately. If the person is alert, rinse mouth thoroughly with water.

Advice on treatment:

There is no specific antidote available. Treat symptomatically. The product contains solvent that may cause chemical pneumonitis if aspirated into lungs. Watch for delayed onset of pulmonary. If ingested perform gastric lavage and administer activated charcoal.

5. FIRE FIGHTING MEASURES

Fire and explosion hazard:

Flammable. Flash Point: 61 OC.

Extinguishing agents:

Extinguish small fires with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray can be used for cooling of unaffected stock, but avoid water coming in contact with the product. Contain water used for fire fighting for later disposal.

Fire fighting:

Remove spectators from surrounding area. Remove container from fire area if possible. Contain fire control agents for later disposal. Use a recommended extinguishing agent for the type of surrounding fire. Water can be used to cool unaffected containers but must be contained for later disposal. Avoid inhaling hazardous vapours. Keep upwind.

Personal protective equipment:

Fire may produce irritating or poisonous vapours including carbon monoxide and carbon dioxide, mists or other products of combustion. Fire fighters and others that may be exposed should wear full protective clothing and selfcontained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES (SPILLAGE)

Personal precautions:

Avoid contact with skin and eyes. Do not breathe in spray or fumes. For personal protection see Section 8.

Environmental precautions:



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Do not allow entering drains or watercourses. Spillage or uncontrolled discharges into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs. Considered a marine pollutant

Occupational spill:

Remove all sources of flames and sparks. For small liquid spills, soak up with lime, damp earth or sand, or other noncombustible absorbent material and place into containers for later disposal. For large liquid spills, contain the liquid for later disposal. In situations where product comes in contact with water, contain contaminated water for later disposal. Do not flush spilled material into drains. Keep spectators away.

7. HANDLING AND STORAGE REQUIREMENTS

Handling:

Harmful by skin or eye contact, toxic by inhalation or ingestion. Avoid contact with eyes and skin, and inhalation of spray and vapour. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Operators should change and wash clothing daily. Remove clothing immediately if the insecticide gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

Storage:

Do not store near sources of sparks, flame or heat. Keep under lock and key and out of reach of unauthorised persons, children and animals. Store in its original labelled container in isolated, dry, cool and well-ventilated area. Not to be stored next to foodstuffs and water supplies.

Local regulations should be complied with.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

It is essential to provide adequate ventilation. The measures appropriate for a particular work site depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.

PERSONAL PROTECTIVE EQUIPMENT:



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If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection.

Respirator:

An approved respirator suitable for protection from dusts and mists of pesticides is adequate. Limitations of respirator use specified by the approved agency and the manufacturer must be observed.

Clothing:

Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.

Gloves:

Employee must wear appropriate synthetic protective gloves to prevent contact with this substance.

Eye protection:

The use of safety goggles is recommended.

Emergency eye wash: Where there is any possibility that an employee's eyes may be exposed to this substance; the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Emulsifiable Concentrate.

Odour: Aromatic

Flash point: 610C. Flammable.

Specific gravity: @ 20 0C 0.90 g/m/

10. STABILITY AND REACTIVITY

Storage stability:

Stable for up to 2 years under normal warehouse and field conditions.

Stability:

Product is unlikely to spontaneously decompose or polymerise. Avoid oxidizing agents.

Decomposition products:

Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen and its compounds and oxides of nitrogen.



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11. TOXICOLOGICAL INFORMATION

Acute oral LD50: >221 mg/kg in rats

Acute dermal LD50: > 2000 mg/kg in rabbits

Acute skin irritation: Product is a mild skin irritation.

Acute eye irritation: Product is a mild irritant to eyes. Effects may be long lasting, and in severe exposure even permanent effects such as corneal damage may occur.

12. ECOLOGICAL INFORMATION

Degradability:

In animals, **Abamectin** is rapidly eliminated (80 to 100% in 96 hours), mainly via faeces.

In plants degradation/metabolism of **Abamectin** occurs predominantly by photolysis on the plant surfaces. **Abamectin** binds tightly to soil, with rapid degradation by soil micro-organisms. No bioaccumulation.

ECOTOXICOLOGY:

Birds: Acute oral LD50: 84.6 mg/kg (mallard ducks)

> 2000 mg/kg (bobwhite quail)

Fish: LC50 (96 hr): 3,2 µg/l (rainbow trout)

9,6 µg/l (bluegill sunfish)

TOXIC TO FISH.

Bees: TOXIC TO BEES.

Daphnia: The 48-hour EC50 is 0.34 ppb

Algae: *Pseudokirchneriella subcapitata* >100 mg/l (72 h)

Earthworms: LC50 (28 days): 28 mg/kg soil.

13. DISPOSAL CONSIDERATION

Pesticide disposal:

Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product that cannot be reused or reprocessed. Do not contaminate rivers, dams or any other water sources with the product or used containers. Comply with local legislation applying to waste disposal.

Package product wastes:

Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is destroyed.



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TRIPLE RINSE empty containers in the following manner: Invert the empty container over the spray or mixing tank and allow draining for at least 30 seconds after the flow has slowed down to a drip. Thereafter rinse the container three times with a volume of water equal to a minimum of 10 % of that of the container. Add the rinsing to the contents of the spray tank before destroying the container in the prescribed manner. Do not re-use the empty container for any other purpose but destroy it by perforation and flattening and bury in an approved dumpsite. Prevent contamination of food, feedstuffs, drinking water and eating utensils.

14. TRANSPORT INFORMATION

UN Number: 2903

Road Transport ADR/RID:

Class: 3

Packaging group: III

Shipping name: Flammable liquid, N.O.S.

(**Abamectin** 18 g/l)

Maritime Transport IMDG/IMO:

Class: 3

Packing group: III

Shipping name: Flammable liquid, N.O.S.

(**Abamectin** 18 g/l)

Considered a marine pollutant.

15. REGULATORY INFORMATION

Symbol: F, Xn, Xi

Indication of danger: Flammable; Harmful, Irritant

Risk phrase(s):

R 10 Flammable

R 20/22 Harmful by inhalation and if swallowed.

R 36/37/38 Irritating to eyes, respiratory system and skin.

R 41 Risk of serious damage to eyes.

R 43 May cause sensitisation by skin contact.

R 48 Danger of serious damage to health by prolonged exposure.



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Safety phrases:

- S 1/2 Keep locked up and out of reach children.
 - S 13 Keep away from food, drink and animal feeding stuffs.
 - S 23 Do not breathe vapour/spray.
 - S 24/25 Avoid contact with skin and eyes.
 - S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
 - S 46 If swallowed seek medical advice immediately and show container or label.
 - S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.
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16. OTHER INFORMATION

Packed in 10 m/, 20 m/, 25 m/, 50 m/, 100 m/, 250 m/, 500 m/ 1 l, 5 l, 10 l, 20 l and 25 l fluorinated plastic containers and labelled according to South African regulations and guidelines.

Disclaimer:

The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage use of the product. It is not applicable to unusual or nonstandard uses of the product or where instructions or recommendations are not followed. All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof.

END OF DOCUMENT

Compiled: November 2006

Reviewed: September 2009