



龍燈農業化工股份有限公司
ROTAM AGROCHEMICAL CO., LTD.

7/F. Cheung Tat Centre,
No.18, Cheung Lee Street,
ChaiWan, Hong Kong.

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SAFETY DATA SHEET

Date of prepared: February 15th, 2011

Version: 1.0

Section 1. Identification of the Substance/Preparation and of the

Company/Undertaking

Product Name: SAFRAN

Product Code: FI-001

Chemical Name of Active Ingredient (IUPAC):

(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-[15.6.1.1^{4,8}.0^{20,24}]pentacosa-10,14,16,22-tetraene-6-spiro-2'-(5',6'-dihydro-2'H-pyran)-12-yl 2,6-dideoxy-4-O-(2,6-dideoxy-3-O-methyl- α -L-arabino-hexopyranosyl)-3-O-methyl- α -L-arabino-hexopyranoside (i) mixture with

(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[15.6.1.1^{4,8}.0^{20,24}]pentacosa-10,14,16,22-tetraene-6-spiro-2'-(5',6'-dihydro-2'H-pyran)-12-yl 2,6-dideoxy-4-O-(2,6-dideoxy-3-O-methyl- α -L-arabino-hexopyranosyl)-3-O-methyl- α -L-arabino-hexopyranoside (ii)

Chemical Abstracts name:

5-O-demethylavermectin A1a (i) mixture with 5-O-demethyl-25-de(1-methylpropyl)-25-(1-methylethyl)avermectin A1a (ii)

Chemical Formula of Active Ingredient:

Avermectin B1a: C₄₈H₇₂O₁₄ (i)

Avermectin B1b: C₄₇H₇₀O₁₄ (ii)

CAS Registry Number of Active Ingredient:

Avermectin B1a 65195-55-3, Avermectin B1b 65195-56-4

Product Use: Agriculture Insecticide/Acaricide

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Emergency Telephone Numbers: (852) 28965608 Hong Kong

Section 2. Hazards Identification

Harmful if swallowed. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Section 3. Composition/Information on Ingredients

Component	CAS Number	EEC No.	Symbol	R Phrase	Content % (w/v)
Abamectin	65195-55-3 & 65195-56-4		N, T ⁺	26 50/53	1.8%



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Section 4. First Aid Measures

Eye Contact: Flush with running water for at least 15 minutes while holding eyelids open to help flush out material. Do not contaminate the other eye. Get medical attention.

Skin Contact: Remove contaminated clothing and shoes immediately. Wash thoroughly with soap and water. Get medical attention.

Inhalation: Move to the fresh air. Give artificial respiration if necessary. Immediately get medical attention.

Ingestion: Rinse mouth with water. Drink 1 or 2 glasses of water. Do not induce vomiting without medical advice. Consult a physician.

Section 5. Fire Fighting Measures

Firefighting Media: Water spray, carbon dioxide and powder.

Firefighting Precaution: In the event of fire, wear self-contained breathing apparatus.

Additional information: Do not use water jet. In fire it is combustible and will release harmful smoke. Do not flush into surface water or sanitary sewer system or the rivers and collect to proper containers. Cool the closed containers near the source of fire by water spraying.

Section 6. Accidental Release Measures

Personal precautions: Wear personal protective equipment.

Methods for cleaning up: Collect up promptly by absorbing material, like sand, soil, kieselgur, vermiculite, and then shovel into suitable container for disposal.

Section 7. Handling and Storage

Handling Precautions: Harmful if swallowed. Avoid getting in eyes, on skin or clothing. Remove contaminated clothing immediately. Wash thoroughly after handling.

Storage Precautions: Do not use or store near heat or open flame. Store in the original closed container and in cool, dry and well-ventilated place.

Section 8. Exposure Controls/Personal Protection

Engineering Controls: Ensure good ventilation in confined space.

Eye/Face: To protect against accidental eye contact, goggles/face-shield should be worn.

Hand Protection: Rubber gloves should be worn.

Skin Protection: Light protective clothes should be worn according to local regulatory. Wash thoroughly with soap and water after handling.

Respiratory Protection: Ensure good ventilation and wear half-mask with adequate filter.

Section 9. Physical and Chemical Properties

Appearance	Yellowish liquid
Odor	Characteristic odor
Density	0.966g/ml (25°C)
Flash point	76.5°C
pH	3.66
Water Solubility	Miscible



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Flammability	Not flammable
Oxidizing Potential	Not an oxidant

Section 10. Stability and Reactivity

Stability: Stable under the normal handling and storage conditions.

Incompatibilities: Avoid mixed with strong acids and alkalis.

Hazard Decomposition: Thermal decomposition may emit toxic fumes and irritating vapors.

Hazard Polymerization: Will not occur.

Section 11. Toxicological Information

Acute Oral Toxicity: LD₅₀ for rats >303 mg/kg

Acute Dermal Toxicity: LD₅₀ for rabbits >2020 mg/kg

Acute Inhalation Toxicity: LC₅₀ (4 h) for rats >2.29 mg/l

Skin Irritation: Moderately irritating

Eye Irritation: Severely irritating

Skin sensitization: May cause sensitization by skin contact.

Section 12. Ecological Information

Bioaccumulation: No bioaccumulation.

Stability in water: Biodegradable in water.

Stability in soil: Biodegradable in soil.



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Ecotoxicity effects

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Algae: for green algae, EC50 (96h) = 13.12mg/L (based on formulated material) .

Bird: LD50 > 2000mg/kg for Japanese quail (based on formulated material).

Fish: LC50 (96h) = 5.31 mg/L for Zebra fish (based on formulated material).

Daphnia: EC50 (48h) = 6.30µg/L for *Daphnia similis* (based on formulated material).

Earthworm: LC50 (14day) = 2332.61mg/kg (based on formulated material).

Honeybee: LD50 (48h) = 0.35µg/bee (based on formulated material).

Section 13. Disposal Considerations

Disposal of product would be treated, stored, transported, and disposed of according to the local waste regulation. Do not flush to surface water or sanitary sewer system.

Section 14. Transport Information

IATA Classification

Proper Shipping Name: Environmentally hazardous substance, liquid, N.O.S.
(Abamectin)

Class: 9
UN No.: 3082
Packaging Group III

IMO Classification

Proper Shipping Name: Environmentally hazardous substance, liquid, N.O.S.
(Abamectin)

Class: 9
UN No.: 3082
Packaging Group III
Marine Pollutant

ADR Classification:

Proper Shipping Name: Environmentally hazardous substance, liquid, N.O.S.
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Class: 9
UN No.: 3082
Packaging Group III



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Section 15. Regulatory Information

European/International Regulation:

Hazard Symbols:

Xn Harmful

Risk Phrases:

- R22: Harmful if swallowed.
- R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

- S2: Keep out of the reach of children.
- S13: Keep away from food, drink and animal feedstuffs.
- S 45: In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever possible.)
- S 36/37: Wear suitable protective clothing and gloves
- S 23: Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer)

Section 16. Other Information

Disclaimer: The information provided by Rotam Agrochemical Co., Ltd contained herein is given in good faith and correct to the best of our knowledge. However, the information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification.