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MATERIAL SAFETY DATA SHEET

M.E. PHEROLURE®

SECTION 1. PRODUCT IDENTIFICATION

Product Code: PME

Product Name: M.E. PheroLure®

Chemical contents: Methyl Eugenol (1,2-dimethoxy-4-(2-propenyl)benzene) as active ingredient in a polyethelene plastic tube.

Product description: This product consists of liquid methyl eugenol enclosed in a polyethelene plastic tube. The devices are sealed in separate impermeable pouches for shipping and storage. This product is intended for use in monitoring agricultural crops as an attractant for the Oriental Fruit Fly *Bactrocera dorsalis*.

Chemical family: Fruit Fly Attractant.

Chemical Formula: $C_{11}H_{14}O_2$

24 Hr Emergency Number: 087 754 9785 (Insects Science)

In case of Poisoning: Poison Information Centre 082 446 8946
Tygerberg Hospital: 021 931 6129
Poison Emergency Enquiries 021 689 5227

SECTION 2. COMPOSITION/INFORMATION ON ACTIVE INGREDIENT

Hazardous component: Methyl Eugenol (98%)

Substance Name: 1,2-dimethoxy-4-(2-propenyl)benzene

CAS Registry Number: 93 – 15 – 2

EINECS: 202-223-0

Formula: $C_{11}H_{14}O_2$

Synonyms: Eugenol methyl ether
4-Allyl-1,2-dimethoxybenzene
Eugenyl methyl ether



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SECTION 3. HAZARDS IDENTIFICATION

When in the dispenser formulation, the impregnated active ingredient represents less of a hazard than the neat active ingredient.

Risk Phrases : R22 40 36/37/38
Hmis rating
Health: 2*
Flammability: 0
Reactivity: 0

Nfpa rating
Health: 0
Flammability: 1
Reactivity: 0
Instability: 0

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Health effects: Methyl Eugenol may cause irritation to mucous membranes and upper respiratory tract.

Skin: May cause skin irritation,
Repeated exposure or prolonged contact may cause dermatitis

Eyes: May cause eye irritation.

Inhalation: Inhalation of volatile oils may cause dizziness, rapid shallow breathing, tachycardia, bronchial irritation and unconsciousness or convulsions. Complications may include anuria, pulmonary oedema and bronchial pneumonia.

Ingestion: Ingestion of volatile oils may cause abdominal burning, nausea, vomiting, diarrhoea, haematuria, shallow respiration and convulsions. Complications may include anuria, pulmonary oedema and bronchial pneumonia. Pathologic findings from ingestion of volatile oils include renal degenerative changes and intense congestion and oedema in the lungs, brain and gastric system.

There is clear evidence of carcinogenic activity in mice and rats of both sexes based on increased incidences of liver neoplasms and neuroendocrine tumours of the glandular stomach.



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SECTION 4. FIRST AID MEASURES

Oral exposure:	If swallowed, wash out mouth with water provided person is conscious. Call a physician.
Inhalation exposure:	If inhaled, remove to fresh air. If breathing becomes difficult give oxygen and call a physician.
Dermal exposure:	In case of contact, immediately wash skin with soap and copious amounts of water for 15 minutes.
Eye exposure:	In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

SECTION 5. FIRE FIGHTING MEASURES

Suitable extinguishing media:	Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.
Protective equipment:	Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific hazard(s):	Emits toxic fumes under fire conditions.

SECTION 6. ACCIDENTAL RELEASE MEASURES

In case of spillage, collect dispensers, seal in a suitable container and remove. If any liquid material is present, standard absorbents such as sand or vermiculite may be used.

SECTION 7. HANDLING AND STORAGE

Handling:	Do not open packaging until time of use. Do not eat, drink or smoke when handling the product. Wash hands thoroughly after handling. If available, wear suitable protective gloves.
Storage:	Suitable: Keep tightly closed only in the original packaging in a cool, well ventilated place.



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User Exposure: Do not breathe vapour. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

SECTION 8. EXPOSURE CONTROLS / PPE

Engineering controls: Safety shower and eye bath. Mechanical exhaust required.
Personal protective equipment: If handling bulk quantities use only in well ventilated area. In case of insufficient ventilation, wear suitable respiratory equipment. Wear suitable protective clothing and gloves.
General hygiene measures: Wash thoroughly after handling.

SECTION 9. PHYSICAL/CHEMICAL PROPERTIES

Appearance : Pale yellow clear liquid, active ingredient enclosed within a polyethelene bulb.
Colour: Colourless to light yellow.
Odour: Spicy, earthy-clove, carnation like, sweet.
Flash Point: < 100 °C
Solubility: Solvent fixed oils, ether, ethanol and alcohol.
Water: < 0.1 g/L (19 °C)

SECTION 10. STABILITY AND REACTIVITY

Stability: Stable at normal pressure and temperature.
Materials to avoid: Strong oxidizing agents.
Hazardous decomposition products: Carbon monoxide, carbon dioxide.
Hazardous polymerization: Not expected to occur.

SECTION 11. TOXICOLOGICAL INFORMATION

When in the dispenser formulation, the impregnated impregnated active ingredient represents less of a hazard than the neat active ingredient.

Acute toxicity: (for neat active ingredient) oral LD₅₀ rat 810 mg/kg, inhalation LC₅₀ rat > 4.8 mg/L, dermal LD₅₀ rabbit > 2 025 mg/kg.
Carcinogenetic: (for neat active ingredient) Anticipated human carcinogen.



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SECTION 12. ECOLOGICAL INFORMATION

The product is not classified as environmentally hazardous: Application through a dispenser is considered not to have an ecological impact.

Fish Toxicity: (for neat active ingredient) LC₅₀ Fish: 6 mg/L (96 days)
Rainbow trout, Donaldson trout (*oncorhynchusmykiss*).

SECTION 13. DISPOSAL CONSIDERATIONS

Appropriate method of disposal of substance or preparation.

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

SECTION 14. TRANSPORT INFORMATION

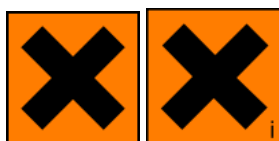
ROAD: Not Regulated
SEA: Not Regulated
AIR: Not Regulated

SECTION 15. REGULATORY INFORMATION

This product does not itself kill insects, but may fall within the scope of pesticide regulations when used to mitigate pest populations. When in the dispenser formulation, the impregnated active ingredient represents less of a hazard than the neat active ingredient.

EU additional classification

Symbol of danger: Xn, Xi



Labelling Requirement: Blue

WHO Toxicity Classification: III: Product unlikely to present acute hazard in normal use.

Director: P.J.G Booyen

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Indication of danger: Harmful; Irritant

Risk statements: R: 22 40 36/37/38

Harmful if swallowed. Limited evidence of a carcinogenic effect. Irritating to eyes, respiratory system and skin.

Safety statements: S: 26 36/37/39

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection.

US classification and label text:

Indication of danger: Harmful; Irritant

Risk statements: Harmful if swallowed. Limited evidence of a carcinogenic effect. Irritating to eyes, respiratory system and skin.

Safety statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable gloves and eye/face protection. us statements: possible carcinogen (us).

United states regulatory information

SARA listed: Yes (Acute and chronic health hazard SARA 311/312)
TSCA inventory item: Yes

WHMIS classification / GHS classification:

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR), and the MSDS contains all the information required by the HPR.



Signal Word: Warning

Hazard Statements: H302 (Category 4) Acute toxicity, oral.
H316 (Category 3) Causes mild skin irritation.
H320 (Category 2B) Causes eye irritation.
H351 (Category 2B) Suspected to cause cancer.

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Precautionary Statements:

- P101 If medical advice is needed, have product container or label at hand.
- P102 Keep out of reach of children.
- P103 Read label before use.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P281 Wear protective equipment as required.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes; Remove contact lenses, if present and easy to do. Continue rinsing.

Canada regulatory information:

DSL: Yes
NDSL: No

SECTION 16. OTHER INFORMATION

It is the user's responsibility to determine the suitability of this information for the adoption of necessary safety precautions. We reserve the right to revise material safety data sheets periodically as new information becomes available. No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose of any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. Insect Science (Pty) Ltd assumes no responsibility for any damages, losses, injuries or consequential damages which may result from the use or misuse of this product and the recipient assumes all such risks.

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