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Reg. Nr. 2000/022528/07
Wat. Nr. 415 019 1890

MATERIAL SAFETY DATA SHEET X-MATE™ M.N.B.

SECTION 1. PRODUCT IDENTIFICATION

Product Code: XMMNB
Product Name: X-Mate™ MNB
Chemical contents: Liquid Z-8-dodecenyl acetate as active ingredient impregnated in a saturated cellulose disk in a membrane type dispenser.
Product description: This product consists of a pheromone-saturated disk packed in a membrane type dispensers and over packed with aluminium foil sachet. This product is intended for use in Macadamia orchards as a mating disruptor on Macadamia nut borer (*Thaumatotibia batrachopa*).
Chemical family: Macadamia nut borer mating disruptor.
Chemical Formula: C₁₄H₂₆O₂
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

Substance Name: (Z)-8-Dodecenyl acetate
CAS Registry Number: 28079-04-1
EINECS: 248-823-6
Formula: C₁₄H₂₆O₂
Synonyms: Z8-12Ac
8-dodecen-1-ol, acetate, (8Z)-

SECTION 3. HAZARDS IDENTIFICATION

When in the membrane dispenser formulation, the impregnated pheromone represents less of a hazard than the neat pheromone material.

The membrane dispenser formulation is not considered hazardous.

EU Classification: Xi: Irritant.
(Neat pheromone) N: Harmful to the environment

Hmis rating

Health hazard: 1
Chronic Health Hazard: 0

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Flammability: 0
Physical Hazard: 0

Nfpa rating

Health hazard: 1
Fire hazard: 0
Reactivity: 0

Skin and eyes: May cause skin and eye irritation.

WHMIS (2015) classification: Skin irritation (Category 2)
(Neat pheromone) Eye irritation (Category 3)
Very toxic to aquatic life with long-lasting effects
(Category Chronic 1)

US classification: Caution: Eye and skin irritation warning is appropriate.
(Neat pheromone) May cause skin and eye irritation.

SECTION 4. FIRST AID MEASURES

General advice: Avoid contact with skin, eyes or clothing. Wash hands thoroughly with soap before eating or drinking. Remove and wash contaminated clothing. Consult a physician and show this safety data sheet to the doctor.

Oral exposure: If swallowed, wash out mouth with water provided person is conscious. Call a physician. Do not induce vomiting.

Inhalation exposure: If inhaled, remove to fresh air. If not breathing, give artificial respiration and call a physician.

Dermal exposure: In case of contact, immediately remove contaminated clothing where applicable, wash skin with soap and copious amounts of water for several minutes. Consult a physician if irritation continues.

Eye exposure: In case of contact with eyes, flush eyes with water for several minutes. If contact lenses are used, rinse eyes for 5 minutes, remove contact lenses and continue rinsing for several minutes. Call a physician.

SECTION 5. FIRE FIGHTING MEASURES

Extinguishing media Suitable: Water spray / fog, carbon dioxide, dry chemical powder, or alcohol-resistant foam.

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Unsuitable:	Water with a full water jet.
Fire fighting	
Protective equipment:	Wear self-contained breathing apparatus and protective clothing if necessary.
Specific hazard(s):	Carbon dioxides and carbon monoxides.

SECTION 6. ACCIDENTAL RELEASE MEASURES

In case of spillage, soak up with inert absorbent material and dispose of as hazardous waste in appropriate manner. Keep in suitable, closed containers for disposal. Avoid contact with skin and eyes and breathing in vapours, mist or gas. Ensure adequate ventilation and do not let product enter drains, surface or ground water.

SECTION 7. HANDLING AND STORAGE

Handling:	Ensure good ventilations / exhaustion and avoid contact to eyes and skin. Keep away from ignition sources and do not smoke.
Storage:	Keep tightly closed in a cool, dry, well-ventilated place. Do not store with oxidizing or acidic materials. Protect from heat and direct sunlight.
User Exposure:	Avoid breathing in vapours, mist or gas.

SECTION 8. EXPOSURE CONTROLS / PPE

When in the membrane dispenser formulation, the impregnated pheromone represents less of a hazard than the neat pheromone material.

Engineering controls:	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Keep away from foodstuff, beverages and food. Avoid contact with skin and eyes, remove contaminated clothing immediately.
Personal protective equipment:	Handle with gloves that are impermeable and product resistant when handling lures removed from foil pouch. It is recommended that safety glasses are worn. Protective clothing can be used to avoid excessive skin contact.
Environmental controls:	Do not let product enter drains.



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SECTION 9. PHYSICAL/CHEMICAL PROPERTIES

Appearance:	Liquid active ingredient impregnated in a saturated cellulose disk in a membrane type dispenser
Colour:	Colourless to light yellow.
Odour:	Mild
Boiling point / range:	300.13 °C
Melting point	22.05 °C
Flash Point:	110 °C
Self-flammability:	Product is not selflighting.
Explosive:	Product is not explosive
Density at 20 °C:	0.876 – 0.880 g/cm ³
Solubility:	Water: Insoluble Organic solvents: Soluble in all common organic solvents except DMSO, ethylene glycol.
Shelf life:	12 months from date of manufacturing.
Vapour pressure:	0.5466 hPa

SECTION 10. STABILITY AND REACTIVITY

Stability:	Stable at recommended storage conditions.
Materials to avoid:	Strong bases, Strong oxidizing agents, Strong reducing agents
Hazardous decomposition products:	Carbon monoxide and carbon dioxide.
Hazardous polymerization:	Not reported to occur under recommended conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

When in the membrane dispenser formulation, the impregnated pheromone represents less of a hazard than the neat pheromone material.

Acute toxicity:	(for neat pheromone material) oral LD ₅₀ rabbit > 5000 mg/kg, inhalation LD ₅₀ rat > 5 mg/L air/4 h, dermal LD ₅₀ rabbit > 5050 mg/kg, dermal LD ₅₀ rat > 2000 mg/kg
Skin irritation:	Irritating for the skin.
Eye irritation	Mild eye irritation on direct contact.
Skin sensitizer	Not considered as skin sensitizer.



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Carcinogenicity: This product is not considered to be a carcinogen by IARC, ACGIH, NTP or OSHA.

SECTION 12. ECOLOGICAL INFORMATION

When in the membrane dispenser formulation, the impregnated pheromone represents less of a hazard than the neat pheromone material. The formulated product is not considered environmentally hazardous.

Persistence and degradability: Easily biodegradable. No residues in soil.
(Neat pheromone)

Ecotoxicology: Birds: Acute oral LD₅₀: > 2050mg/kg (Bobwhite quail)
(Neat pheromone) Fish: 96-hour Acute toxicity LD₅₀: > 0.99 mg/L
(Rainbow trout)
Daphnia: EC₅₀ = 0.38 mg/L (48 hours)
Algae: EC₅₀ = 1.2 g/L (72 hours)

SECTION 13. DISPOSAL CONSIDERATIONS

Appropriate method of disposal of substance or preparation.
Contact a licensed professional waste disposal service to dispose of this material. Mix with combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Must not be disposed of together with household garbage. Do not contaminate water when disposing of the product. Observe all federal, state, and local environmental regulations.

SECTION 14. TRANSPORT INFORMATION

ROAD: Not dangerous goods
SEA: Not dangerous goods
AIR: Not dangerous goods

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.

EU additional classification:

Symbol of danger (Neat pheromone): Xi; N



Indication of danger: Irritant; Harmful to the environment.
(Neat pheromone)

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Risk statements: R36/38 R50/53
(Neat pheromone) Irritating to eyes and skin
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Safety statements: S: 2 13 20/21 36/37 46 57
Keep out of reach of children. Keep away from food, drink and animal foodstuff and do not eat, drink or smoke when used. Wear suitable protective clothing and gloves. Seek medical advice and show container label when swallowed. Use appropriate containment to avoid environmental contamination.

US classification and label text:

EPA Exempted from label requirements; CFR 40 152.25(b) if used for monitoring purposes in traps

United states regulatory information:

Indication of danger: Caution: Eye and skin irritation warning is appropriate.
Risk statements: Irritating to eyes 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.

SARA listed: No
TSCA inventory item: Yes

Canada regulatory information:

WHMIS (2015) 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: H315 (Category 2) Causes skin irritation.
(Neat pheromone) H319 (Category 3) Eye irritation.
H410 (Category Chronic 1) Very toxic to aquatic life with long-lasting effects.

Precautionary Statements: P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

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DSL: No
NDSL: Yes

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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