Material Safety Data Sheet

Product Name: MALDISON 500 Insecticide

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: MALDISON 500 Insecticide
Product Code: 1305
Product Type: Group 1B Insecticide
Company Name: NUFARM AUSTRALIA LIMITED. (ABN 80 004 377 780)
Address: 103-105 Pipe Road Laverton North
Victoria 3026  Australia
Emergency Tel.: 1800 033 498 (24hr Australia)
Telephone/Fax Number: Tel: +61 3 9282-1000
Fax: +61 3 9282-1001
Recommended Use: For the control of a wide range of insect pests in certain crops, wildflowers and eucalypts as per the Directions for Use table on the label.

2. HAZARDS IDENTIFICATION

Classification:
- Classified as hazardous
- HAZARDOUS SUBSTANCE.
- NON-DANGEROUS GOODS.

Risk Phrase(s):
- R22 Harmful if swallowed.
- R43 May cause sensitization by skin contact.
- R65 Harmful: may cause lung damage if swallowed.
- R66 Repeated exposure may cause skin dryness and cracking.
- R67 Vapours may cause drowsiness and dizziness

Safety Phrase(s):
- S13 Keep away from food, drink and animal feeding stuffs.
- S2 Keep out of reach of children.
- S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
- S46 If swallowed, seek medical advice immediately and show this container or label.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Characterization</th>
<th>Ingredients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Proportion</td>
</tr>
<tr>
<td>Malathion (malison)</td>
<td>500 g/L</td>
</tr>
<tr>
<td>Liquid Hydrocarbons</td>
<td>394 g/L</td>
</tr>
<tr>
<td>Other ingredients</td>
<td>10-30 %</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Inhalation: Remove patient to fresh air. Obtain medical advice. If breathing is difficult, oxygen may be given by a trained person.

Ingestion: Do not give anything by mouth to a semi-conscious or unconscious person. Rinse mouth and then drink plenty of water. If swallowed do NOT induce vomiting; seek medical advice immediately and show this container or label. Make every effort to prevent vomit from entering the lungs by careful placement of the patient.

Skin: Remove contaminated clothing and wash skin thoroughly with soap and water.
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### 5. FIRE FIGHTING MEASURES

**Suitable Extinguishing Media**
- Water fog, foam, carbon dioxide or dry chemical.
- Avoid using large volumes of water which would spread the product.

**Hazards from Combustion Products**
- If involved in a fire, it will emit oxides of carbon, oxides of sulfur, oxides of phosphorus and possibly dimethyl sulfide.

**Special Protective Equipment for fire fighters**
- Breathable air apparatus should be worn when fighting a fire in which this product is involved.

#### Emergency Action in case of Fire
- If exposed to fire, keep container cool by spraying with water.
- If possible, remove other containers from the area of fire.
- STOP FIRE WATER FROM ENTERING DRAINS OR WATER BODIES.

### 6. ACCIDENTAL RELEASE MEASURES

**Spills & Disposal**
- Contain spill and absorb with clay, sand, soil or proprietary absorbent (such as vermiculite).
- Collect spilled material and waste in sealable open-top type containers for disposal.
- On-site disposal of concentrate is not acceptable.

**Personal Protection**
- For appropriate personal protective equipment (PPE), refer Section 8.

**Clean-up Methods - Large Spillages**
- Place damaged containers in recovery bins (if available) and return to manufacturer.
- If large liquid spills occur, attempt to recover as much spilt material from sumps and bunded areas before absorbing remaining material into vermiculite or other absorbent.

### 7. HANDLING AND STORAGE

**Conditions for Safe Storage**
- Store in the closed, original container in a cool, well ventilated area.
- Do not store for prolonged periods in direct sunlight.
- Ideally, the product should be stored at temperatures below 30°C. Properties of the product may change if stored above this temperature for extended periods.

**Other Information**
- Always read the label and any attached leaflet before use.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Eye
- Obtain medical advice immediately.
- If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes.

#### First Aid Facilities
- If poisoning occurs, contact a doctor or the Poisons Information Centre (Australia) on 13 11 26.

#### Advice to Doctor
- An anticholinesterase compound.
- Artificial respiration should be started at the first sign of respiratory failure. Cautious administration of fluids is advised, as well as general supportive and symptomatic pharmacological treatment and absolute rest. As early as possible, administer 2 mg of atropine sulfate i.v. and 1000-2000 mg of pralidoxime chloride or 250 mg of obidoxime chloride (adult dose) i.v. to patients suffering from severe respiratory difficulties, convulsions, and unconsciousness. Repeated doses of 2 mg of atropine sulfate should be given, as required, based on the respiration, blood pressure, pulse frequency, salivation, and convulsion conditions. The dose and the frequency of atropine varies with each patient, but the patient should remain fully atropinised (signs include dilated pupils, dry mouth, skin flushing). Diazepam should be given in all but the mildest cases in doses of 10 mg, s.c. or i.v., which may be repeated as required. For children, the doses are 0.04-0.08 mg of atropine/kg body weight, 250 mg of pralidoxime chloride per child, or 4-8 mg of obidoxime chloride/kg body weight. Morphine, barbiturates, phenothiazine derivatives, tranquilizers, and all kinds of central stimulants are contraindicated.
- If vomiting occurs, solvent present may cause pulmonary pneumonitis.

#### Other Information
- STOP FIRE WATER FROM ENTERING DRAINS OR WATER BODIES.
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**ISSUED by NUFARM**

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**National Exposure Standards**
Safe Work Australia has set the following exposure standard for malathion (maldison): TLV (TWA) 10 mg/m³, STEL -. SK  
'SK' notice - absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

The manufacturer of the solvent has recommended an occupational exposure limit of 100 mg/m³; 17ppm TWA, as total hydrocarbon.

**Engineering Controls**
Use in a well ventilated area only.

**Personal Protective Equipment**
When opening the container and preparing the spray wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves and face shield or goggles. When using the prepared spray, wear face shield.

**Hygiene Measures**
After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash contaminated clothing and safety equipment.

**Requirements Concerning Special Training**
Check State or Territory regulations that require people who use pesticides in their job or business to have training in the application of the materials.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Form**
Liquid

**Appearance**
Clear amber liquid.

**Odour**
Mild aromatic odour.

**Melting Point**
<0°C

**Boiling Point**
Decomposes >100°C

**Solubility in Water**
Forms an emulsion in water.

**Specific Gravity**
1.072

**pH Value**
7-8 (5% solution)

**Vapour Pressure**
5.3mPa @ 30°C for malathion (maldison)

**Octanol/Water Partition Coefficient**
Kow Log P is 2.75 for malathion (maldison)

**Flash Point**
64°C

**Flammability**
Combustible liquid C1.

**Flammable Limits - Lower**
0.6% for solvent

**Flammable Limits - Upper**
7.0% for solvent

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### 10. STABILITY AND REACTIVITY

**Chemical Stability**
Malathion is stable at temperatures below 55°C.

**Incompatible Materials**
Avoid contact with strong alkalis, amines and oxidizing compounds.

**Hazardous Reactions**
Prolonged storage at high temperatures may result in the formation of a toxic impurity.

**Hazardous Polymerization**
Hazardous polymerisation is not possible.

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### 11. TOXICOLOGICAL INFORMATION

**Inhalation**
Inhalation of excessive amounts of spray may cause cholinesterase inhibition. Symptoms may include dizziness, pupillary constriction, muscle cramps, excessive salivation, sweating and laboured breathing. Symptoms may be delayed.

**Ingestion**
Possible symptoms of exposure to the concentrate include: nausea, vomiting and abdominal pains. Also diarrhoea and other symptoms as described under 'inhalation'.

**Skin**
Prolonged contact with the concentrate can cause defatting of the skin and may
### 11. IRRITATION

<table>
<thead>
<tr>
<th>Effect</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye</td>
<td>May irritate the eyes.</td>
</tr>
<tr>
<td>Chronic Effects</td>
<td>Regular exposure may result in lowering of cholinesterase activity which will recover within a few days after exposure ceases.</td>
</tr>
<tr>
<td>Reproductive Toxicity</td>
<td>No such effects have been observed in the absence of maternal toxicity.</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>Data indicates no mutagenic effects.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>IARC (International Agency for Research on Cancer) has determined that the available data provide no evidence that malathion (maldison) is likely to present a carcinogenic risk to humans.</td>
</tr>
</tbody>
</table>

### 12. ACUTE TOXICITY

<table>
<thead>
<tr>
<th>Route</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>LD₅₀ (rat) 1375 - 5500 mg/kg for malathion (maldison)</td>
</tr>
<tr>
<td>Dermal</td>
<td>LD₅₀ (rat) &gt;2000 mg/kg for malathion (maldison)</td>
</tr>
<tr>
<td>Inhalation</td>
<td>LC₅₀ (rat) (4hr) &gt;5.2 mg/l for malathion (maldison)</td>
</tr>
</tbody>
</table>

### 13. DISPOSAL CONSIDERATIONS

#### Product Disposal

On site disposal of the concentrated product is not acceptable. Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals (ChemClear®).

#### Container Disposal

Do not use this container for any other purpose. Triple rinse containers, add rinsate to the spray tank, then offer the container for recycling/reconditioning, or puncture top, sides and bottom and dispose of in landfill in accordance with local regulations. drumMUSTER is the national program for the collection and recycling of empty, cleaned, non returnable crop production and on-farm animal health chemical containers. If the label on your container carries the drumMUSTER symbol, triple rinse the container, ring your local Council, and offer the container for collection in the program.
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If recycling, replace cap and return clean containers to recycler or designated collection point.
If not recycling, puncture or shred and bury containers in local authority landfill.
If no landfill is available, bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots.
Empty containers and product should not be burnt.

14. TRANSPORT INFORMATION

Transport Information

It is good practice not to transport agricultural chemical products with food, food related materials and animal feedstuffs.

Considered non dangerous for road and rail transport (in packaging, including IBCs not greater than 3000 Lt each) by the Australian Code for the Transport of Dangerous Goods by Road and Rail. Ref: ADG7; SP No. AU01.

For bulk shipments as Class 9, use UN 3082, HazChem code 2Z.

UN Number (Sea Transport) 3082
IMO Class/Packing Group Class 9; Packing Group III
IMO Marine Pollutant Marine Pollutant
IMO Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains malathion)

15. REGULATORY INFORMATION

Poisons Schedule S6
Packaging & Labelling POISON
KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING
Harmful, Irritant
AICS (Australia) All of the components in this product are listed on the Australian Inventory of Chemical Substances.

16. OTHER INFORMATION

Date of preparation or last revision of MSDS Reviewed 22/03/2012
This SDS replaces document dated May 2011.

Contact Normal Hours: Mrs Kathleen Marsh Phone: +61 3 9282 1000
After Hours: Shift Supervisor Phone: 1800 033 498

Revisions The MSDS was reviewed. Various changes were made to the information.
Risk Phrase - R43 added to section 2.
...End Of MSDS...