



Material Safety Data Sheet

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Infosafe No. 3NU61 Issue Date : April 2007 ISSUED by NUFARM

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. 24hr 1800 033 498
Telephone/Fax Number Tel:
(03) 9282-1000
Fax:
(03) 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.
Other Information This MSDS describes, to the best of our knowledge, the properties of the concentrated product. The physical properties and some of the assessments do not apply to the properties of the product once it has been diluted for application. Acute health effects of the diluted product are likely to be much less severe.

2. HAZARDS IDENTIFICATION

Hazard Classification HAZARDOUS SUBSTANCE.
NON-DANGEROUS GOODS.
Hazard classification according to the criteria of NOHSC.
Dangerous goods classification according to the Australia Dangerous Goods Code.
Risk Phrase(s) R22 Harmful if swallowed.
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.
Other Information Poisons Schedule S6

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization Liquid

Ingredients	Name	CAS	Proportion
	Malathion (maldison)	121-75-5	500 g/L
	Liquid Hydrocarbons	64742-94-5	394 g/L
	Other ingredients (considered non-hazardous)		10-30 %

4. FIRST AID MEASURES

Inhalation Remove patient to fresh air and, if required, give one atropine tablet every five minutes until dryness of the mouth occurs.
If breathing is difficult, oxygen may be given by a trained person.
Obtain medical attention urgently.

Ingestion If product has been swallowed and symptoms are evident and medical assistance is not immediately available, give one atropine tablet (0.6 mg) every five minutes until dryness of the mouth occurs. Preferably, carry out treatment under the direction of medical advice obtained by phone.
Do not give anything by mouth to a semi-conscious or unconscious person.



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Skin	Rinse mouth and then drink plenty of water. If poisoned by skin absorption, remove contaminated clothing, wash skin thoroughly with soap and water and give one atropine tablet every five minutes until dryness of the mouth occurs. Obtain medical advice immediately.
Eye	If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes.
First Aid Facilities	If Maldison 500 is regularly used, it may be wise to keep a supply of atropine tablets (0.6 mg) (check State Regulations). 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, tranquillizers, and all kinds of central stimulants are contraindicated. If vomiting occurs, solvent present may cause pulmonary pneumonitis.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media	Water fog, foam, carbon dioxide or dry chemical.
Hazards from Combustion Products	Avoid using large volumes of water which would spread the product. 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.
Specific Hazards	
Hazchem Code	2X
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.
Other Information	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 banded areas before absorbing remaining material into vermiculite or other absorbent.

7. HANDLING AND STORAGE



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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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards NOHSC 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 NSW regulations require that people who use pesticides in their job or business must have training in the application of the materials. By 1st September, 2005 all users must have received such training.

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
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

10. STABILITY AND REACTIVITY

Chemical Stability Maldison is stable at temperatures below 55°C.
Incompatible Materials Avoid contact with strong alkalis, amines and oxidizing compounds.
Hazardous Reactions Storage at temperatures too high may induce formation of more toxic and synergistic impurity in malathion.
Hazardous Polymerization Hazardous polymerisation is not possible.

11. TOXICOLOGICAL INFORMATION

Inhalation Inhalation of excessive amounts of spray may cause cholinesterase inhibition. Symptoms may include dizziness, pupillary constriction, muscle cramps,



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	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 result in dermatitis. Malathion (maldison) can be absorbed through the skin, so any contamination has to be immediately washed off. See other symptoms as described under 'inhalation'.
Eye	May irritate the eyes.
Chronic Effects	Regular exposure may result in lowering of cholinesterase activity which will recover within a few days after exposure ceases.
Reproductive Toxicity	No such effects have been observed in the absence of maternal toxicity.
Mutagenicity	Data indicates no mutagenic effects.
Carcinogenicity	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.
Acute Toxicity - Oral	LD50 (rat) 1375 - 5500 mg/kg for malathion (maldison)
Acute Toxicity - Dermal	LD50 (rat) >2000 mg/kg for malathion (maldison)
Acute Toxicity - Inhalation	LC50 (rat) (4hr) >5.2 mg/l for malathion (maldison)
Eye Irritation	Mild eye irritant.
Skin Irritation	Mild skin irritant.
Skin Sensitisation	Product is not a skin sensitiser.
Other Information	The Australian Acceptable Daily Intake (ADI) for malathion (maldison) for a human is 0.02 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 2 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. (Ref: Comm. Dept. of Health and Ageing, 'ADI List', TGA, September 2006).

12. ECOLOGICAL INFORMATION

Persistence / Degradability	Half life in soil is typically 1-2 days.
Known Harmful Effects on the Environment	The product is a marine pollutant for sea transport. Highly toxic to fish and aquatic organisms.
Other Precautions	Do not spray on vegetation where honeybees are foraging. Do not contaminate dams, waterways or sewers with this product or the containers which have held this product.
Acute Toxicity - Fish	The following is data for the active ingredient, malathion (maldison). Toxic to fish. LC50 (96hr) for bluegill sunfish is 0.1 mg/l. LC50 (96 hr) for bass is 0.28 mg/l.
Acute Toxicity - Daphnia	LC50 (48hr) for daphnia magna is 1.0 µg/l
Acute Toxicity - Algae	LC50 (96 hr) for algae 13 mg/l.
Acute Toxicity - Other Organisms	Bees: Toxic to bees. LD50 0.71 µg/bee.

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®).
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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.
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

U.N. Number None Allocated
Proper Shipping Name None Allocated
DG Class None Allocated
Hazchem Code 2X
Packing Group None Allocated
Storage and Transport Considered non dangerous for transport by the Australian Code for the Transport of Dangerous Goods by Road and Rail.
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
Hazard Category Harmful
AICS (Australia) All of the components in this product are listed on the Australian Inventory of Chemical Substances.

16. OTHER INFORMATION

Contact Person/Point Normal Hours: Mr Volker Maier Phone: (03) 9282 1000
After Hours: Shift Supervisor Phone: 1800 033 498
Revisions Highlighted The MSDS was reviewed. Various changes were made to the information.
...End Of MSDS...