



Material Safety Data Sheet

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Infosafe No. NU024 Issue Date : July 2006 ISSUED by NUFARM

Product Name : **LEPIDEX 500 Insecticide**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name LEPIDEX 500 Insecticide
Product Code 1246
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 insects in various situations 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.
DANGEROUS GOODS.
Hazard classification according to the criteria of NOHSC.
Dangerous goods classification according to the Australia Dangerous Goods Code.
Risk Phrase(s) R10 Flammable.
R22 Harmful if swallowed.
R43 May cause sensitization by skin contact.
Safety Phrase(s) S13 Keep away from food, drink and animal feeding stuffs.
S2 Keep out of reach of children.
S24 Avoid contact with skin.
S37 Wear suitable gloves.
Other Information Poisons Schedule S6

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Ingredients | <u>Name</u> | <u>CAS</u> | <u>Proportion</u> |
|----------------------------------|----------------------|------------|-------------------|
| | Trichlorfon | 52-68-6 | 500 g/L |
| | 1-methoxy-2-propanol | 107-98-2 | 30-60 % |
| | N-methylpyrrolidone | 872-50-4 | 10-30 % |
| Substance Chemical Family | Organophosphate | | |

4. FIRST AID MEASURES

Inhalation Obtain medical advice.
Remove patient to fresh air and, if required, give one atropine tablet every five minutes until dryness of the mouth occurs.



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|-----------------------------|---|
| Ingestion | <p>Rinse mouth thoroughly with water.</p> <p>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.</p> <p>If swallowed do NOT induce vomiting; seek medical advice immediately and show this container or label or contact the Poisons Information Centre on 13 11 26 (Aust). Make every effort to prevent vomit from entering the lungs by careful placement of the patient.</p> <p>The above first aid instructions are mandated by the Commonwealth Department of Health and Aged Care via the National Drugs and Poisons Schedule. These instructions are suitable for ingestion of spray solution and small amounts of concentrate; however, if SUBSTANTIAL AMOUNTS of the concentrate have been swallowed (more than about 1 tablespoon) AND if medical assistance is more than 30 minutes away, the induction of vomiting should be CONSIDERED, preferably based on MEDICAL ADVICE if a physician can be contacted by phone. All care must be taken to prevent vomit from being inhaled. Do not give anything by mouth to a semi-conscious or unconscious person.</p> |
| Skin | <p>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.</p> <p>Obtain medical advice immediately.</p> |
| Eye | <p>If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes.</p> <p>Seek medical advice.</p> |
| First Aid Facilities | <p>If poisoning occurs, contact a doctor or Poisons Information Centre on 13 11 26 (Australia).</p> <p>If trichlorfon is regularly used, it may be wise to keep a supply of atropine tablets (0.6 mg) (check State Regulations).</p> |
| Advice to Doctor | <p>The degradation product dichlorvos, usually formed in vivo, is a cholinesterase inhibitor.</p> <p>An anticholinesterase compound.</p> <p>If the material is dissolved in solvents, e.g., petroleum solvents, vomiting may cause pulmonary aspiration. Instead, the stomach should be emptied as soon as possible by careful gastric lavage (using a cuffed endotracheal tube already in place). 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.</p> |

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media Water fog, foam, carbon dioxide or dry chemical.

Media

Hazards from Combustion Products If involved in a fire, it will emit carbon monoxide, phosgene and possibly oxides of phosphorous.

Special Protective Equipment for fire fighters Breathable air apparatus may have to be worn if material is involved in fires especially in confined spaces.

Hazchem Code 2W



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Emergency Action in case of Fire If exposed to fire, keep container cool by spraying with water.

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.
Dispose of at a landfill in accordance with local regulations.
If possible, ring 1800 033 498 for specialist advice.

Clean-up Methods - Large Spillages Place damaged containers in recovery bins (if available) and return to manufacturer.

Environmental Precautions Contaminated earth (after a spill) can be treated with lime to hasten decomposition of the active ingredient.
Trichlorfon is rapidly hydrolysed under alkaline conditions (<30 minutes at pH9) to dichlorvos which, in turn, is further hydrolysed, albeit more slowly (half life of 2 days at pH9).
NOHSC has set an exposure standard for dichlorvos of (TWA) 0.9 mg/m³.
'SK' notice - absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

7. HANDLING AND STORAGE

Conditions for Safe Storage Store in the closed, original container in a dry, well ventilated area out of direct sunlight.
Keep container tightly sealed and do not store with seed, fertilisers or foodstuffs.

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards No biological exposure limit allocated.
NOHSC has set the following exposure standard for 1-methoxy-2-propanol : TLV (TWA) 369 mg/m³, STEL 553 mg/m³.
No exposure standards have been set for this product.

Other Exposure Information DFG (Germany) has set the following exposure standards for n-methylpyrrolidone
MAK TWA 80 mg/m³; PEAK -.
'SK' notice - absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

Engineering Controls Handle in well ventilated areas, generally natural ventilation is adequate.

Personal Protective Equipment When opening the container, preparing spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves, goggles, impervious footwear and half piece respirator with combined dust and gas cartridge (canister).

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

Appearance Clear, colourless solution.

Melting Point 75 - 84°C (for trichlorfon)

Boiling Point Not established, but > 120°C.

Solubility in Water Soluble in water.

Specific Gravity 1.150

Vapour Pressure 0.21 mPa @ 20°C (for trichlorfon)



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Vapour Density (Air=1) >1
Volatile Component 50%
Flash Point 37°C (PMCC - AS 2104)
Flammability Flammable Liquid.
Flammable Limits - Lower Not known for this product mix.

10. STABILITY AND REACTIVITY

Incompatible Materials Avoid contact of the concentrate with strong alkalis and alkaline materials such as lime.
Avoid contact of the concentrate with strong acids.

Hazardous Decomposition Products Will decompose above pH 5.5 to form dichlorvos - a cholinesterase inhibitor.

Hazardous Reactions Keep away from strong oxidising agents.

Hazardous Polymerization Hazardous polymerisation is not possible.

11. TOXICOLOGICAL INFORMATION

Inhalation The components of the product are of low volatility and no adverse effects are expected from handling the concentrate.
A moderate hazard exists from inhalation of spray and care should be taken to avoid inhalation of spray mists.

Ingestion The concentrate is harmful if swallowed.
Amounts swallowed incidental to normal handling procedures and use are not expected to cause injury.

Skin Prolonged contact with the concentrate may result in absorption of trichlorfon in harmful amounts.
Prolonged contact with the concentrate can cause defatting of the skin and may result in dermatitis.
May cause sensitisation by prolonged skin contact.

Eye The concentrate may cause irritation of the eyes.

Chronic Effects Regular exposure may result in lowering of cholinesterase activity which will recover within a few days after exposure ceases.
Symptoms of over-exposure are exhaustion, headache, weakness, confusion, vomiting, abdominal pain, excessive sweating and salivation.
In severe case of poisoning, muscle spasms, unconsciousness, convulsions may develop and extend to respiratory failure.

Acute Toxicity - Oral LD50 (rat) 250 - 630 mg/kg for trichlorfon
LD50 (mouse) 600 - 800 mg/kg for trichlorfon

Acute Toxicity - Dermal LD50 (rat) >5000 mg/kg for trichlorfon

Acute Toxicity - Inhalation LC50 (rat) (4hr) 1.3 mg/l for trichlorfon

Skin Sensitisation Prolonged and repeated skin contact may result in skin sensitisation.

Human Effects The major effect of the product when absorbed in moderate doses is cholinesterase inhibition. This effect is due to dichlorvos, which rapidly forms from the compound in the body.
Trichlorfon has been used therapeutically for the treatment of parasitic worms in humans.
In animal studies Trichlorfon was shown to be a sensitiser but no cases of sensitisation resulting from occupational exposure have been reported after many years of use.



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Other Information The Australian Acceptable Daily Intake (ADI) for trichlorfon for a human is 0.002 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 0.2 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 2005).

12. ECOLOGICAL INFORMATION

Mobility Rapid degradation in soil prevents significant downward movement under normal conditions.

Known Harmful Effects on the Environment The product is a marine pollutant for sea transport.

Other Precautions Do not contaminate dams, waterways or sewers with this product.

Environ. Protection Spray drift can cause damage, read the label for more information.

Acute Toxicity - Fish The following is data for the active ingredient, trichlorfon. Toxic to fish. LC50 (96hr) for rainbow trout is 0.7 mg/l. LC50 (96 hr) for golden orfe is 0.52 mg/l.

Acute Toxicity - Daphnia LC50 (48 hr) for daphnia is 0.00096 mg/l for trichlorfon.

Acute Toxicity - Other Organisms Moderately toxic to birds.
LD50 for mallard duck is 36.8 mg/kg
LD50 for bobwhite quail is 22.4 mg/kg
Moderately toxic to bees.

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 (ChemCollect).

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 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 to separate this product from food, food related materials, animal feedstuffs, seed or fertilisers during transport.

U.N. Number 3017

Proper Shipping Name ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE - (contains Trichlorfon)

DG Class 6.1

Sub.Risk 3

Hazchem Code 2W

Packaging Method 3.8.6

Packing Group III



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Product Name : **LEPIDEX 500 Insecticide**

Storage and Transport Considered dangerous for transport by the Australian Code for the Transport of Dangerous Goods by Road and Rail.

EPG Number 6C3

IERG Number 17

UN Number (Sea Transport) 3017

IMO Class/Packing Group Class 6.1; Sub Class 3; Packing Group III

IMO Marine Pollutant Marine Pollutant

IMO Proper Shipping Name ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE (contains Triclorfon)

15. REGULATORY INFORMATION

Poisons Schedule S6

National and or International Regulatory Information There is a legislative requirement in most States in Australia for workers to be medically monitored when using organophosphates, by:- 'estimation of red cell and plasma cholinesterase activity towards the end of the day on which organophosphates have been used'.
Ref: Control of Workplace Hazardous Substances, NOHSC:1005.

Packaging & Labelling POISON
KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING

Hazard Category Harmful, Irritant

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. Minor changes were made to the information.
...End Of MSDS...