

Infosafe No™ NU024	Issue Date : July 2011	ISSUED by NUFARM
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Product Name **LEPIDEX 500 Insecticide**

Classified as hazardous

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. 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 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 Classified as hazardous
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) Classified as hazardous
R10 Flammable.
R22 Harmful if swallowed.
R36/37/38 Irritating to eyes, respiratory system and skin.
R43 May cause sensitization by skin contact.
R61(2) May cause harm to the unborn child
R67 Vapours may cause drowsiness and dizziness

Safety Phrase(s) S1/2 Keep locked up and out of reach of children.
S13 Keep away from food, drink and animal feeding stuffs.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
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	<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-methyl pyrrolidone	872-50-4	10-30 %
Substance Chemical Family	Organophosphate		

4. FIRST AID MEASURES

Inhalation Remove patient to fresh air. Obtain medical advice.

Ingestion Rinse mouth thoroughly with water.
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

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(Aust). Make every effort to prevent vomit from entering the lungs by careful placement of the patient.

The above first aid instructions are mandated by the Commonwealth Department of Health and Ageing 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.

Skin Obtain medical advice immediately.
Any skin contaminated with the concentrate must be thoroughly washed with soap and water.

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

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

Advice to Doctor The degradation product dichlorvos, usually formed in vivo, is a cholinesterase inhibitor.
An anticholinesterase compound.
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.

5. FIRE FIGHTING MEASURES

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

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

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

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.
Dispose of at a landfill in accordance with local regulations.

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Clean-up Methods - Large Spillages	If possible, ring 1800 033 498 for specialist advice. 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).

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. Safe Work Australia has set the following exposure standard for 1-methoxy-2-propanol : TLV (TWA) 369 mg/m3, STEL 553 mg/m3.
Other Exposure Information	An exposure standard has been set for dichlorvos (trichlorfon degradation product) of 0.9 mg/m3 (TWA). SK An exposure standard has been set for NMP at TLV (TWA) 103 mg/m3 and STEL 309 mg/m3. SK 'SK' notice - absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur. DFG (Germany) has set the following exposure standards for n-methylpyrrolidone MAK TWA 80 mg/m3; PEAK -.
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	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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Liquid
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
pH Value	6.5 - 7 (5%)
Vapour Pressure	0.21 mPa @ 20°C (for trichlorfon)
Vapour Density (Air=1)	>1
Volatile Component	50%
Flash Point	37°C (PMCC - AS 2104)
Flammability	Flammable Liquid.

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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 Inhalation of the solvent may cause dizziness and drowsiness.

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.

Eye May cause sensitisation by prolonged skin contact. 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.

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 Office of Chemical Safety and Environmental Health, 'ADI List', March 2010).

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.

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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 (96hr) for golden orfe is 0.52 mg/l.

Acute Toxicity - Daphnia LC50 (48hr) 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 (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. 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.

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

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 Trichlorfon)

15. REGULATORY INFORMATION



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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	Toxic, 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 and updated on 07/07/2011

Contact Person/Point Revisions Highlighted

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

The MSDS was reviewed. Various changes were made to the information.
Section 2 - new risk and safety phrases have been assigned;
Section 4 - updated first aid measures;
Section 11 - inhalation information; and various other sections updated.
...End Of MSDS...

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