

4FARMERS CHLORPYRIFOS 500 INSECTICIDE

1 . IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

Product Name: 4FARMERS CHLORPYRIFOS 500 INSECTICIDE

Recommended Use of the Chemical and Restriction on Use: Agricultural insecticide

Details of Manufacturer or Importer:

4Farmers Australia Pty Ltd
70 McDowell Street
Welshpool WA 6106

Phone Number: +61 8 9356 3446

Emergency telephone number: National Poison Information Centre: 13 11 26

2 . HAZARDS IDENTIFICATION

Hazardous Nature:

Classified as Hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and Safe Work Australia criteria.

Classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail

GHS Classification:

- Flammable liquids, Category 4
- Acute Toxicity, Category 4 (oral)
- Serious eye damage / eye irritation Category 1
- Aspiration hazard, Category 1
- Carcinogenicity, Category 2
- Acute aquatic toxicity, Category 1
- Chronic aquatic toxicity, Category 1

Hazard Statements:

- H227 Combustible liquid.
- H302+H312 Harmful if swallowed or in contact with skin.
- H318 Causes serious eye damage.
- H304 May be fatal if swallowed and enters airways.
- H351 Suspected of causing cancer.
- H410 Very toxic to aquatic life with long lasting effects.

Signal Word: DANGER

Pictograms:





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Precautionary Statements

Prevention

- P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear protective gloves, protective clothing, eye protection/ and face protection.
P273 Avoid release to the environment.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.

Response

- P301+P310 IF SWALLOWED: Immediately call a POISON CENTRE/ doctor.
P321 Specific treatment (see on this label).
P312 Call a POISON CENTRE/doctor if you feel unwell.
P330 Rinse mouth.
P331 Do NOT induce vomiting.
P302+P352 IF ON SKIN: Wash with plenty of water.
P305+P352
+P358 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P391 Collect spillage.
P361+P364 Take off immediately all contaminated clothing and wash it before reuse.
P370+P378 In case of fire: Use for extinction CO₂, powder or water spray.
P405 Store locked up.
P403+P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/container in accordance with local/regional/national regulations.

3 . COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical Characterization: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Hazardous Components:

2921-88-2	chlorpyrifos (ISO)	50%
	Acute Tox. (Oral) 3, H301; Aquatic Acute 1, H400; Aquatic Chronic 1, H410	
64742-95-6	Solvent naphtha (petroleum), light aromatic	40%
	Asp. Tox. 1, H304; Flam. Liq. 4, H227	

4 . FIRST AID MEASURES

General advice: First Aid responders should ensure their own safety and use the recommended protective clothing (chemical resistant gloves and splash protection). If the potential for exposure exists, wear PPE as specified in Section 8.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention if breathing problems develop.

Skin Contact:

In case of skin contact, immediately remove contaminated clothing and wash affected areas with water and Soap for 15-20 minutes. Wash clothing before reuse. Shoes and other leather items which cannot be decontaminated should be disposed of appropriately. Get immediate medical attention.

Eye Contact:

In case of eye contact, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.



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Ingestion:

If swallowed, immediately call a doctor or Poisons Information Centre on 13 11 26. Do not induce vomiting unless told to do so by a doctor or Poison Control Centre. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Do not give anything by mouth to an unconscious person. If swallowed, activated charcoal may be advised. Give atropine if instructed.

Information for Doctor:

This product is a cholinesterase inhibitor. Treat symptomatically. If exposed, plasma and red blood cell cholinesterase tests may indicate significance of exposure (baseline data are useful). Vomiting may cause pulmonary aspiration. The risk from lung aspiration must be weighed against toxicity when considering emptying the stomach. If burn is present, treat as for any thermal burn after decontamination. 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 practicable, 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.

Victims of significant exposure should be observed for 24-48 hours following exposure for signs of respiratory distress. Ensure adequate ventilation and oxygenation of the patient are maintained. If haemolysis is suspected, monitor haemoglobin, haematocrit, plasma free haemoglobin, and urinalysis. Whole blood or packed RBC transfusion may be necessary in extreme cases. Alkalization of urine with bicarbonate may prevent renal damage. Treatment should be directed at the control of symptoms and the clinical condition of the patient. High exposure may aggravate pre-existing conditions such as asthma and other respiratory disorders such as emphysema, bronchitis or reactive airways dysfunction syndrome. Skin contact may aggravate pre-existing dermatitis.

Refer to the Safety Data Sheet or product label when contacting a Poison Information Centre or doctor or attending hospital for treatment.

Symptoms Caused by Exposure:

The majority of the neurological symptoms associated with chlorpyrifos exposure are headache, nausea, vomiting, diarrhoea, bradycardia, blurred vision, pulmonary oedema, salivation, lacrimation, and urination.

5 . FIRE FIGHTING MEASURES

Suitable extinguishing media	Dry agent, carbon dioxide or foam. Do not use water in a jet as this may spread the fire.
Specific hazards arising from the chemical	Combustible liquid. May evolve toxic gases including oxides of carbon, sulfur, phosphorus and nitrogen, hydrogen chloride, phosgene, and other pyrolysis products when heated to decomposition.
Special protective equipment and precautions for fire fighters	Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combatting fire. Use water fog to cool intact containers and nearby storage areas.



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6 . ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Eliminate all ignition sources. Material is slippery. Clean up spills immediately to prevent further accidents. Wear personal protective equipment (PPE) as specified in Section 8. Avoid contact with spilled or released material. Shut off leaks, if safe to do so. Isolate hazard area and deny entry to unnecessary or unprotected personnel.

Environmental precautions

Prevent from spreading and entering waterways by using sand, earth or other non-combustible material. Ventilate contaminated area thoroughly.

Methods and materials for containment and cleaning up

Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal. Eliminate all ignition sources. In the event of a large spill, contain spilled material with sand, earth or other absorbent material. Prevent run-off into drains or waterways. Transfer spilled material to suitable containers for re-use or disposal. Transfer contaminated sand or earth into suitable containers for disposal. Clearly label all containers. Wash contaminated area with detergent and water.

7 . HANDLING AND STORAGE

Precautions for safe handling

Before use carefully read the product label. Use safe work practices to avoid eye or skin contact and inhalation of vapour. Use product only outdoors or in well-ventilated areas. Observe good personal hygiene, including washing hands before eating, drinking or smoking. Prohibit eating, drinking and smoking in areas where this product is in use. Wash contaminated clothing and other protective equipment before storage or re-use. Provide eyewash fountains and safety showers in close proximity to points of potential exposure.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry and well-ventilated area. Keep container tightly closed when not in use. Protect from direct sunlight, heat, sparks, open flames and other sources of ignition. Keep away from strong oxidising agents. Protect from physical damage. Check regularly for spills. Store as a Class C1 Combustible Liquid (AS1940).

8 . EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Standards

Chlorpyrifos (ISO) CAS no. 2921-88-2
NES TWA: 0.2mg/m³ sk

Biological Limits

There is a legislative requirement in most States in Australia for workers to be medically monitored when handling or using organophosphates. The usual method of monitoring is by "*estimation of red cell and plasma cholinesterase activity towards the end of the day on which organophosphates have been used*". Reference: Control of Workplace Hazardous Substances, NOHSC:1005.

Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapour below occupational exposure standards.



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Individual protective measures and personal protective equipment (PPE)

Eye Protection: Face shield and/or splash-proof chemical goggles (AS1336/1337).

Skin Protection: PVC, PVA, nitrile, neoprene, rubber or vinyl gloves, cotton overalls buttoned to the neck and wrist and a washable hat. See Australian/New Zealand Standard AS/NZS 2161 and 4501 for more information.

Respiratory Protection: Respirator: Use a Safe Work Australia approved vapour respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentrations of mist or vapour, inadequate ventilation, development of respiratory tract irritation) and engineering controls are not feasible. See Australian Standards AS/NZS 1715 and 1716 for more information.

9 . PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	
Form:	Liquid
Colour:	Clear, light amber colour
Odour:	Strong aromatic odour
Odour Threshold:	No information available
pH-Value:	2-3
Melting point/Melting range:	No information available
Initial Boiling Point/Boiling Range:	>112 °C
Flash Point:	>61 °C
Flammability:	Combustible liquid
Auto-ignition Temperature:	No information available
Decomposition Temperature:	No information available
Explosion Limits:	
Lower:	No information available
Upper:	No information available
Vapour Pressure:	No information available
Density:	No information available
Relative Density at 20 °C:	1.1 g/cm ³
Vapour Density:	No information available
Evaporation Rate:	No information available
Solubility in Water:	Emulsifies with water.

10. STABILITY AND REACTIVITY

Reactivity	Stable under recommended conditions of storage and use.
Chemical Stability	Stable under recommended conditions of storage and use.
Conditions to Avoid	Keep away from heat, hot surfaces, sparks, open flame and other ignition sources.
Incompatible materials and possible hazardous reactions	Keep away from strong oxidising agents, strong acids and alkalis. No hazardous reactions known.
Hazardous decomposition products	Will evolve toxic gases including oxides of carbon, sulfur, phosphorus and nitrogen, hydrogen chloride and phosgene when heated to decomposition.



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11 . TOXICOLOGICAL INFORMATION

Health Hazard Summary	This product is of high toxicity by ingestion and of low to moderate toxicity by skin absorption. The product is may cause serious eye damage. There is limited evidence of carcinogenicity from exposure to some components in the solvent.
Eye	May cause moderate eye irritation which may be slow to heal. May cause corneal injury. Solvent vapour may cause eye irritation experienced as mild discomfort and redness.
Inhalation	Prolonged exposure to spray mist may cause severe adverse effects including central nervous system effects. Symptoms of excessive exposure include anesthetic or narcotic effects such as dizziness and drowsiness. Symptoms of excessive exposure may also include nausea and vomiting.
Skin	Brief contact with skin may result in drying and defatting of the skin redness and local irritation. May be absorbed through skin with harmful effects. Repeated contact may cause skin burns with symptoms including pain, severe local redness, swelling, and tissue damage.
Ingestion	High toxicity if swallowed. Small amounts swallowed incidentally during normal spray operations are not likely to cause injury; however, swallowing larger amounts may cause serious injury, even death. For the product, estimated Oral LD50 (rat) = 450 mg/kg based on components. Aspiration into lungs may cause chemical pneumonitis and pulmonary oedema which may be fatal.
Toxicity Data	LD50/LC50 Values Relevant for Classification: 2921-88-2 chlorpyrifos (ISO) Oral LD50: 135 mg/kg (rat) Dermal LD50: 202 mg/kg (rat) 64742-95-6 Solvent naphtha (petroleum), light aromatic Oral LD50: >6800 mg/kg (rat) Dermal LD50: >3400 mg/kg (rabbit) Inhalation LC50/4 h: >10.2 mg/l (rat)
Sensitisation:	No sensitising effects known.
Germ Cell Mutagenicity:	Based on classification principles, the classification criteria are not met.
Carcinogenicity:	Active ingredient, chlorpyrifos, shows no evidence of cancer in laboratory animals. Naphthalene, a component of the solvent, has shown evidence of cancer in some laboratory animals. In humans, there is limited evidence of cancer in workers involved in naphthalene production. Limited oral studies in rats were negative.
Reproductive Toxicity:	Active ingredient is toxic to the fetus in laboratory animals at doses toxic to the mother. No birth defects observed for active ingredient or solvent.



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Target Organ Toxicity (STOT)

- **Single Exposure:** Available data suggest that this material is not and STOT-SE toxic material.

Specific Target Organ Toxicity

(STOT) - Repeated Exposure: Excessive exposure to this product may produce organophosphate type cholinesterase inhibition. Symptoms of excessive exposure to organophosphates include headache, dizziness, lack of coordination, muscle twitching, tightness in the chest, tremors, salivation, abdominal cramps, nausea, diarrhea, sweating, blurred vision, pinpoint pupils, tearing, excessive urination and convulsions. In animals, adverse effects have been reported on the adrenal gland. Dose levels producing these effects were many times higher than those expected from exposure during normal use. For the solvent, adverse effects have been reported on the gastrointestinal tract, thyroid, lung and urinary at high levels.

Aspiration Hazard: May be fatal if swallowed and enters airways.

Chronic Health Effects: May cause skin irritation after prolonged or repeated exposure and may produce contact dermatitis. May be irritating to the eye, with prolonged contact causing inflammation.

Existing Conditions

Aggravated by Exposure: No information available.

Additional toxicological information:

The Australian Acceptable Daily Intake (ADI) for chlorpyrifos for a human is 0.003 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 0.03 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, 'ADI List', March 2016).

12 . ECOLOGICAL INFORMATION

Ecotoxicity

This product is regarded as very toxic to aquatic organisms and may cause long term adverse effects in the aquatic environment
Highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in the most sensitive species):
LC50 (rainbow trout) 96 Hour, 0.003 mg/L
Acute toxicity to aquatic invertebrates EC50 (water flea), 48 Hour, 0.00068 mg/L
Acute toxicity to algae/aquatic plants EC50 (marine diatom), 96 Hour, growth inhibition (cell density reduction), 0.255 - 0.328 mg/L

Persistence and Degradability:

The main components of this product are not readily biodegradable. Some minor components may persist in the environment.

Mobility in soil

Moderate mobility in soil. Evaporates from water or soil surfaces but a significant proportion will remain after one day. Large volumes may penetrate soil and could contaminate groundwater. Contains volatile constituents.



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Bioaccumulative potential	Moderate bioaccumulative potential for active ingredient. Some minor ingredients may high potential to bioaccumulate.
Other adverse effects	No data.

13 . DISPOSAL CONSIDERATIONS

Safe handling and disposal methods	Recover or recycle if possible. Refer to local waste management authority for other approved methods. Empty containers should be decontaminated by rinsing with water prior to disposal or recycling. Product must be contained and not disposed of in sewerage systems, drains or waterways. Advise combustible nature.
Disposal of contaminated packaging	Empty packaging should be disposed of in accordance with local, state, and federal regulations or recycled/reconditioned at an approved facility.
Environmental regulations	Dispose of in accordance with relevant local, state and federal legislation.

Disposal Methods and Containers: Dispose according to applicable local and state government regulations.

Special Precautions for Landfill or Incineration:

Please consult your state Land Waste Management Authority for more information.

14 . TRANSPORT INFORMATION

UN Number (ADG, IMDG and IATA)	UN3018
Proper Shipping Name ADG	3018 ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC (chlorpyrifos (ISO)), ENVIRONMENTALLY HAZARDOUS
IMDG	ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC (chlorpyrifos (ISO), Solvent naphtha (petroleum), light arom.), MARINE POLLUTANT
IATA	ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC (chlorpyrifos (ISO))
Dangerous Goods Class ADG Class: IMDG Class:	6.1 (T6) Toxic substances. 6.1 Toxic substances.
Packing Group: ADG, IMDG, IATA	III
Marine pollutant:	Yes (Symbol: fish and tree)
EMS Number:	F-A, S-A
Hazchem Code:	2X
Special Provisions:	61, 223, 274
Limited Quantities:	5L



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15 . REGULATORY INFORMATION

Australian Inventory of Chemical Substances:

2921-88-2 Chlorpyrifos (ISO)
64742-95-6 Solvent naphtha (petroleum), light aromatic.

WHS REGULATIONS:

There is a legislative requirement in most States in Australia for workers to be medically monitored when using organophosphates. The usual method of monitoring is by "*estimation of red cell and plasma cholinesterase activity towards the end of the day on which organophosphates have been used*". Reference: Control of Workplace Hazardous Substances, NOHSC:1005.

Poison Schedule:

Poisons Schedule: 6

16 . OTHER INFORMATION

Date of Preparation or Last Revision: 05.02.18

Abbreviations and acronyms:

ADG: Australian Dangerous Goods
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
IARC: International Agency for Research on Cancer
STEL: Short Term Exposure Limit
TWA: Time Weighted Average
NES: National Exposure Standard (Safe Work Australia - Workplace Exposure Standards For Airborne Contaminants)
Flam. Liq. 4: Flammable liquids – Category 4
Acute Tox. (Oral) 3: Acute toxicity – Category 3
Asp. Tox. 1: Aspiration hazard – Category 1
Aquatic Acute 1: Hazardous to the aquatic environment, short-term (Acute). Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment, long-term (Chronic). Category 1

Disclaimer

This SDS is prepared in accordance with the Safe Work Australia document "Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals – February 2016"

The information contained in this material safety data sheet is provided in good faith and is believed to be accurate at the date of issuance. 4Farmers Australia Pty Ltd makes no representation of the accuracy or comprehensiveness of the information and to the full extent allowed by law excludes all liability for any loss or damage related to the supply or use of the information in this material safety data sheet. The user is cautioned to make their own determinations as to the suitability of the information provided to the particular circumstances in which the product is used.