

4FARMERS CHLORPYRIFOS 500

(Chemwatch name: 4FARMERS CHLORPYRIFOS 500 INSECTICIDE)

Chemwatch Independent Material Safety Data Sheet

Issue Date: 21-Jul-2009

C9317EC

CHEMWATCH 21-1247

Version No:2.0

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

4FARMERS CHLORPYRIFOS 500

PROPER SHIPPING NAME

ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC

PRODUCT USE

Insecticide for control of various insect pests in agricultural and horticultural crops and pastures, and in other situations as specified on the label.

SUPPLIER

Company: 4Farmers

Address:

1/70 McDowell Street

Welshpool, 6106

AUS

Telephone: +61 8 9356 3445

Fax: +61 8 9356 3447

Email: admin@4farmers.com.au

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

HAZARDOUS SUBSTANCE. DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.

COMBUSTIBLE LIQUID, regulated under AS1940 for Bulk Storage purposes only.



POISONS SCHEDULE

S6

RISK

- In use may form flammable/ explosive vapour-air mixture.
- Harmful by inhalation.
- Toxic in contact with skin and if swallowed.
- Irritating to eyes respiratory system and skin.
- Very toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment.
- HARMFUL-May cause lung damage if swallowed.
- Vapours may cause drowsiness and

SAFETY

- Keep locked up.
- Do not breathe gas/fumes/vapour/spray.
- In case of insufficient ventilation wear suitable respiratory equipment.
- Use only in well ventilated areas.
- Keep container in a well ventilated place.
- Avoid exposure - obtain special instructions before use.
- To clean the floor and all objects contaminated

dizziness.

- Cumulative effects may result following exposure*.
- Limited evidence of a carcinogenic effect*.
- May be harmful to the foetus/embryo*.

* (limited evidence).

by this material use water and detergent.

- Keep container tightly closed.
- This material and its container must be disposed of in a safe way.
- Keep away from food drink and animal feeding stuffs.
- Take off immediately all contaminated clothing.
- In case of contact with eyes rinse with plenty of water and contact Doctor or Poisons Information Centre.
- Use appropriate container to avoid environmental contamination.
- Avoid release to the environment. Refer to special instructions/Safety data sheets.
- This material and its container must be disposed of as hazardous waste.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
chlorpyrifos	2921-88-2	50
surfactants		10
aromatic hydrocarbon solvent	64742-95-6.	40

Section 4 - FIRST AID MEASURES

SWALLOWED

- If swallowed:
 - Contact a Poisons Information Centre or a doctor at once.
 - If swallowed, activated charcoal may be advised.
 - If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.
 - Avoid giving milk or oils.
 - Avoid giving alcohol.

EYE

- If this product comes in contact with the eyes:
 - Immediately hold eyelids apart and flush the eye continuously with running water.
 - Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.

SKIN

- If product comes in contact with skin:
 - Contact a Poisons Information Centre or a doctor.
 - DO NOT allow clothing wet with product to remain in contact with skin, strip all contaminated clothing including boots.

INHALED

- - If spray mist, vapour are inhaled, remove from contaminated area.
- Contact a Poisons Information Centre or a doctor at once.

NOTES TO PHYSICIAN

- Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically.

- Most organophosphate compounds are rapidly well absorbed from the skin, conjunctiva, gastro-intestinal tract and lungs.
 - They are detoxified by Cytochrome P450-mediated monooxygenases in the liver but some metabolites are more toxic than parent compounds.
- For acute or short term repeated exposures to xylene:
- Gastro-intestinal absorption is significant with ingestions. For ingestions exceeding 1-2 ml (xylene)/kg, intubation and lavage with cuffed endotracheal tube is recommended. The use of charcoal and cathartics is equivocal.
 - Pulmonary absorption is rapid with about 60-65% retained at rest.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- - Foam.
- Dry chemical powder.

FIRE FIGHTING

- - Alert Fire Brigade and tell them location and nature of hazard.
 - Wear full body protective clothing with breathing apparatus.
- When any large container (including road and rail tankers) is involved in a fire, consider evacuation by 800 metres in all directions.

FIRE/EXPLOSION HAZARD

- **WARNING:** In use may form flammable/ explosive vapour-air mixtures.
 - Combustible.
 - Slight fire hazard when exposed to heat or flame.
- Combustion products include: carbon dioxide (CO₂), hydrogen chloride, phosgene, nitrogen oxides (NO_x), phosphorus oxides (PO_x), sulfur oxides (SO_x), other pyrolysis products typical of burning organic material.
- May emit clouds of acrid smoke.
May emit poisonous fumes.

FIRE INCOMPATIBILITY

- - Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

HAZCHEM: 2X

Personal Protective Equipment

Gas tight chemical resistant suit.

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- - Remove all ignition sources.
- Clean up all spills immediately.

MAJOR SPILLS

- - DO NOT touch the spill material.
- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- - Containers, even those that have been emptied, may contain explosive vapours.
- Do NOT cut, drill, grind, weld or perform similar operations on or near containers.
- DO NOT allow clothing wet with material to stay in contact with skin.
- Electrostatic discharge may be generated during pumping - this may result in fire.
- Ensure electrical continuity by bonding and grounding (earthing) all equipment.
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.

SUITABLE CONTAINER

- - Lined metal can, lined metal pail/ can.
 - Plastic pail.
- For low viscosity materials
- Drums and jerricans must be of the non-removable head type.
 - Where a can is to be used as an inner package, the can must have a screwed enclosure.

STORAGE INCOMPATIBILITY

- Xylenes:
 - may ignite or explode in contact with strong oxidisers, 1,3-dichloro-5,5-dimethylhydantoin, uranium fluoride
 - attack some plastics, rubber and coatings.
- For cumene:
- reacts violently with strong acids, strong oxidisers, chlorosulfonic acid, nitric acid, oleum, oxygen
 - unless inhibited can form unstable peroxides.
 - Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic rings and strong oxidising agents.
 - Aromatics can react exothermically with bases and with diazo compounds.
 - A number of phosphate and thiophosphate esters are of limited thermal stability and undergo highly exothermic self-accelerating decomposition reactions which may be catalysed by impurities.
 - The potential hazards can be reduced by appropriate thermal control measures.
 - Avoid strong acids, bases.
 - Alkyl esters of thiophosphates are often temperature sensitive and decompose if overheated. Thermal decomposition products include highly toxic and odiferous hydrogen sulfide and extremely odorous alkyl mercaptans. Both species can be detected at extremely low concentrations and vapours may travel long distances.
 - Low temperature storage may produce crystallisation from solution.

STORAGE REQUIREMENTS

- - Store in original containers.
- Keep containers securely sealed.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA mg/m ³	Notes
Australia Exposure Standards	chlorpyrifos (Chlorpyrifos)	0.2	Sk
Australia Exposure Standards	aromatic hydrocarbon solvent (Petrol (gasoline))	900	(see Chapter 16)

PERSONAL PROTECTION

RESPIRATOR

Type ANO Filter of sufficient capacity

EYE

- - Safety glasses with side shields.
- Chemical goggles.

HANDS/FEET

- - Wear chemical protective gloves, eg. PVC.
 - Wear safety footwear or safety gumboots, eg. Rubber.
- Suitability and durability of glove type is dependent on usage. Factors such as:
- frequency and duration of contact,
 - chemical resistance of glove material,

OTHER

- - Overalls.
- Eyewash unit.
- Ensure that there is a supply of atropine tablets on hand
- Ensure all employees have been informed of symptoms of carbamate poisoning and that the use of atropine in first aid is understood .

ENGINEERING CONTROLS

- Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Clear light amber coloured liquid; emulsifies with water.

PHYSICAL PROPERTIES

Liquid.

Does not mix with water.

Sinks in water.

Molecular Weight: Not Applicable
Melting Range (°C): Not Available
Solubility in water (g/L): Immiscible
pH (1% solution): Not Available
Volatile Component (%vol): Not Available
Relative Vapour Density (air=1): Not Available
Lower Explosive Limit (%): Not Available
Autoignition Temp (°C): Not Available
State: Liquid

Boiling Range (°C): >112
Specific Gravity (water=1): 1.10
pH (as supplied): Not Available
Vapour Pressure (kPa): Not Available
Evaporation Rate: Not Available
Flash Point (°C): >61
Upper Explosive Limit (%): Not Available
Decomposition Temp (°C): Not Available
Viscosity: Not Available

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- - Presence of incompatible materials.
 - Product is considered stable.
- For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

- Harmful by inhalation.
- HARMFUL-May cause lung damage if

CHRONIC HEALTH EFFECTS

- Limited evidence of a carcinogenic effect*.
- May be harmful to the foetus/ embryo*.

swallowed.

- Toxic in contact with skin and if swallowed.
- Irritating to eyes, respiratory system and skin.
- Vapours may cause dizziness or suffocation.
- Vapours may cause drowsiness and dizziness.
- Cumulative effects may result following exposure*.
- * (limited evidence).

TOXICITY AND IRRITATION

■ unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

■ For trimethylbenzenes:

Absorption of 1,2,4-trimethylbenzene occurs after oral, inhalation, or dermal exposure. Occupationally, inhalation and dermal exposures are the most important routes of absorption although systemic intoxication from dermal absorption is not likely to occur due to the dermal irritation caused by the chemical prompting quick removal.

for chlorpyrifos:

The majority of the neurological symptoms associated with chlorpyrifos exposure result from its inhibition of acetylcholinesterase and the subsequent cholinergic over-stimulation.

Common symptoms related to excessive cholinergic activity include headache, diaphoresis, nausea, vomiting, diarrhea, epigastric cramping, bradycardia, blurred vision, miosis, bronchoconstriction and excess mucous secretions, pulmonary oedema, dyspnoea, muscle fasciculations, salivation, lacrimation, and urination.

The material may be irritating to the eye, with prolonged contact causing inflammation.

Repeated or prolonged exposure to irritants may produce conjunctivitis.

The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling the epidermis.

Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound.

CHLORPYRIFOS:

■ unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY

Oral (man) TDLo: 300 mg/kg
Oral (rat) LD50: 82 mg/kg
Oral (rat) LD50: 135-163 mg/kg *
Dermal (rat) LD50: 202 mg/kg
Inhalation (rat) LC50: 78 mg/kg
Oral (rabbit) LD50: 1000-2000 mg/kg *
Dermal (rabbit) LD50: 2000 mg/kg
Oral (g.pig) LD50: 504 mg/kg *

IRRITATION

Nil Reported

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bronchoconstriction and excess mucous secretions, pulmonary oedema, dyspnoea, muscle fasciculations, salivation, lacrimation, and urination.

[* The Pesticides Manual, Incorporating The Agrochemicals Handbook, 10th Edition, Editor Clive Tomlin, 1994, British Crop Protection Council].

Inhalation (rat) LC50: >0.2 mg/l(14 ppb)/ 4-6hr *

NOEL (2 y) based on blood plasma cholinesterase activity, for rats 0.03, dogs 0.01 mg/kg daily *

ADI 0.01 mg/kg b.w. *

Toxicity Class WHO II;EPA II *

Non-teratogenic *

AROMATIC HYDROCARBON SOLVENT:

■ unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

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Occupationally, inhalation and dermal exposures are the most important routes of absorption although systemic intoxication from dermal absorption is not likely to occur due to the dermal irritation caused by the chemical prompting quick removal.

The material may be irritating to the eye, with prolonged contact causing inflammation.

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The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling the epidermis.

Lifetime exposure of rodents to gasoline produces carcinogenicity although the relevance to humans has been questioned. Gasoline induces kidney cancer in male rats as a consequence of accumulation of the alpha2-microglobulin protein in hyaline droplets in the male (but not female) rat kidney.

CARCINOGEN

Non-arsenical insecticides (occupational exposures in spraying and application of Gasoline (NB: Overall evaluation upgraded from 3 to 2B with supporting evidence from other relevant data)	International Agency for Research on Cancer (IARC) Carcinogens	Group	2A
	International Agency for Research on Cancer (IARC) Carcinogens	Group	2B

SKIN

chlorpyrifos	Australia Exposure Standards - Skin	Notes	Sk
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Section 12 - ECOLOGICAL INFORMATION

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

This material and its container must be disposed of as hazardous waste.

Avoid release to the environment.

Refer to special instructions/ safety data sheets.

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
4Farmers Chlorpyrifos 500 Insecticide		No data		
chlorpyrifos aromatic		No data		
hydrocarbon solvent		No data		

Section 13 - DISPOSAL CONSIDERATIONS

- - Containers may still present a chemical hazard/ danger when empty.
 - Return to supplier for reuse/ recycling if possible.
- Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area.
- DO NOT allow wash water from cleaning or process equipment to enter drains.
 - It may be necessary to collect all wash water for treatment before disposal.
 - Recycle wherever possible. Special hazard may exist - specialist advice may be required.
 - Consult manufacturer for recycling options.

Section 14 - TRANSPORTATION INFORMATION



Labels Required: TOXIC
HAZCHEM: 2X (ADG7)

ADG7:

Class or division:	6.1	Subsidiary risk:	None
UN No.:	3018	UN packing group:	III
Special provisions:	61, 223, 274	Packing Instructions:	None
Notes:	None	Limited quantities:	5 L
Portable tanks and bulk containers - Instructions:	T7	Portable tanks and bulk containers - Special provisions:	TP2, TP28
Packagings and IBCs - Packing instruction:	P001, IBC03, LP01	Packagings and IBCs - Special packing provisions:	None

Shipping Name: ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC

Land Transport UNDG:

Class or division:	6.1	Subsidiary risk:	None
UN No.:	3018	UN packing group:	III

Shipping Name: ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC

Air Transport IATA:

ICAO/IATA Class:	6.1	ICAO/IATA Subrisk:	None
UN/ID Number:	3018	Packing Group:	III
Special provisions:	A3 A4		

Shipping Name: ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC *

Maritime Transport IMDG:

IMDG Class:	6.1	IMDG Subrisk:	None
UN Number:	3018	Packing Group:	III
EMS Number:	F-A,S-A	Special provisions:	61 223 274 944
Limited Quantities:	5 L	Marine Pollutant:	Not Determined

Shipping Name: ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC

Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE: S6

REGULATIONS

Regulations for ingredients

chlorpyrifos (CAS: 2921-88-2) is found on the following regulatory lists;

"Australia - Australian Capital Territory - Environment Protection Regulation: Ambient environmental standards (AQUA/1 to 6 - organic chemicals - pesticides)", "Australia - Australian Capital Territory - Environment Protection Regulation: Ambient environmental standards (Domestic water supply - pesticides)", "Australia - Australian Capital Territory - Environment Protection Regulation: Pollutants entering waterways taken to cause environmental harm (Aquatic habitat)", "Australia - Australian Capital Territory Environment Protection Regulation Pollutants entering waterways - Domestic water quality", "Australia Exposure Standards", "Australia Hazardous Substances", "Australia Inventory of Chemical Substances (AICS)", "OECD Representative List of High Production Volume (HPV) Chemicals", "OSPAR List of Substances of Possible Concern", "WHO Guidelines for Drinking-water Quality - Guideline values for chemicals that are of health significance in drinking-water"

aromatic hydrocarbon solvent (CAS: 64742-95-6) is found on the following regulatory lists;

"Australia Hazardous Substances", "Australia High Volume Industrial Chemical List (HVICL)", "Australia Inventory of Chemical Substances (AICS)", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD Representative List of High Production Volume (HPV) Chemicals"

No data for 4Farmers Chlorpyrifos 500 Insecticide (CW: 21-1247)

Section 16 - OTHER INFORMATION

■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:
www.chemwatch.net/references.

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

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This is the end of the MSDS.