

Infosafe No™ 3NUJG	Issue Date : February 2015	ISSUED by NUFARM
--------------------	----------------------------	------------------

 Product Name **CHLORPYRIFOS 500EC**

1. Identification

GHS Product Identifier	CHLORPYRIFOS 500EC
Product Code	03361
Product Type	Organophosphate Insecticide
Company Name	Nufarm NZ
Address	6 Manu Street, Otahuhu Auckland 2024 New Zealand
Telephone/Fax Number	Tel: 0-9-270 4150 Fax: 0-9-270 4159
Emergency phone number	0800 651 911
Email	info@nz.nufarm.com
Recommended use of the chemical and restrictions on use	Agricultural and horticultural insecticide.
Other Information	This SDS 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. Hazard Identification

Other Information	3.1D flammable liquid, 6.1C acute toxicant, 6.3B skin irritant, 6.4A eye irritant, 6.8B reproductive or developmental toxicant, 6.9A target organ toxicant, 9.1A aquatic toxicant, 9.2B soil toxicant, 9.3A terrestrial vertebrate toxicant, 9.4A terrestrial invertebrate toxicant, FLAMMABLE Warning - combustible liquid. TOXICITY Toxic - may be fatal if swallowed, inhaled or absorbed through the skin. Harmful - may cause mild skin irritation. May cause eye irritation. May cause reproductive/development damage and damage to nervous system from repeated oral exposure at high doses. ECOTOXIC Very toxic to fish and aquatic organisms. Toxic to the soil environment. Very toxic to terrestrial vertebrates and terrestrial invertebrates. Very toxic to bees.
--------------------------	--

3. Composition/information on ingredients

Chemical Characterization	Liquid		
Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
	Chlorpyrifos	2921-88-2	500 g/L
	Aromatic Hydrocarbon	64742-94-5	30-60%
	Ingredients determined to be non-hazardous	-	10-30%
Other Information	Organophosphate		

4. First-aid measures

First Aid Measures	For advice contact the National Poisons Centre 0800 POISON (0800 764 766) or a doctor immediately. Begin artificial respiration if the victim is not breathing. Use mouth-to-nose rather than mouth-to-mouth. Obtain medical attention.
Inhalation	Remove patient to fresh air. Lay down and keep warm and rested. If breathing is shallow or has stopped ensure airway is clear and apply resuscitation. Seek medical assistance immediately.
Ingestion	Never give anything by mouth to an unconscious person. If swallowed do NOT induce vomiting. For advice, contact the National Poisons Centre (0800 764 766). Seek medical assistance immediately.

Infosafe No™ 3NUJG	Issue Date : February 2015	ISSUED by NUFARM
--------------------	----------------------------	------------------

Product Name **CHLORPYRIFOS 500EC**

Skin	Immediately flush body and clothes with large amounts of water. Remove contaminated clothing and footwear. Wash affected areas with soap and water. If a large area is affected seek medical assistance. Do not scrub the skin.
Eye contact	Flush eyes with plenty of water for 15 minutes holding eyelids open if necessary. Seek medical assistance. Remove contact lenses, if present and easy to do.
First Aid Facilities	Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower.
Advice to Doctor	Initial Treatment: Atropine is the specific antidote. Large amounts are required in organophosphate poisoning. An initial trial dose of atropine 2mg intravenously should be given and repeated every 15 minutes until an atropine effect is noted (dilated pupils, dry mouth, flushing of the skin). Reduce to a schedule that maintains full atropinisation for at least 24 hours. The dose and frequency of atropine will vary from case to case. Medical: Take blood samples for cholinesterase levels before starting treatment. Stomach washout if organophosphate has been ingested. Pralidoxime enhances the reactivation of acetyl cholinesterase. It is most effective if given early, but can still be started up to 48 hours after poisoning. Pralidoxime is given at a dose of 1-2mg by slow I.V. infusion at a maximum rate of 0.5gm/min. It is used as an adjunct to, not a replacement for atropine. Respiratory Difficulty - Carefully monitor for 24 hours. Convulsions - Control with Diazepam (Valium) 5-10mg by slow I.V. or I.M. repeat as necessary.

5. Fire-fighting measures

Suitable extinguishing media	Water fog, foam, carbon dioxide or dry chemical.
Unsuitable Extinguishing Media	Do not use water in a jet.
Hazards from Combustion Products	If involved in a fire, it may emit various oxides and derivatives of phosphoric acids, sulphur, nitrogen, hydrogen chloride and phosgene.
Special Protective Equipment for fire fighters	Full protective clothing and self-contained breathing apparatus.
Specific Methods	Keep up wind. Do not allow washings to reach sewage or effluent systems. Cool drums, keeping at a safe distance in case of an explosion.
Hazchem Code	2X
Other Information	Location Certificate: Not applicable Hazardous Atmosphere Zone: Not applicable Number of Fire Extinguishers: 2 for 500L or more

6. Accidental release measures

Spills & Disposal	Wear protective clothing. Clear area of unprotected personnel. Eliminate all ignition sources and naked lights. Use non-sparking utensils. Contain spill and absorb with sand, soil or absorbent granules. If spill does enter waterways contact the local authority. Collect in an appropriate sealable container for disposal in an approved landfill.
Personal Protection	For appropriate personal protective equipment (PPE), refer Section 8.
Environmental Precautions	Prevent from entering drains, waterways or sewers.

7. Handling and storage

Precautions for Safe Handling	Avoid skin and eye contact and inhalation of spray mist. APPROVED HANDLER: This product must only be applied by an approved handler or under the direct supervision of an approved handler. TRACKING: Location and movement of this product must be recorded at each stage of its lifecycle. RECORD KEEPING: Records of use as described in the NZS 8409 Management of Agrichemicals must be kept. Record keeping must also include details of measures taken to ensure that there are no adverse effects beyond the boundary of the subject property into an adjoining property or sensitive area.
--------------------------------------	---

Infosafe No™ 3NUJG	Issue Date : February 2015	ISSUED by NUFARM
--------------------	----------------------------	------------------

Product Name **CHLORPYRIFOS 500EC**

Conditions for safe storage, including any incompatibilities Keep out of reach of children.
 Do not store near heat or flame.
 Store in original container tightly closed and in a locked, dry, cool area away from sources of ignition and foodstuffs. Storage must be in accordance with NZS 8409 Management of Agrichemicals. Do not store with HSNO Class 1, 2, 3.2, 4 or 5 substances.
 Stores containing 100L of CHLORPYRIFOS 500EC require secondary containment and are subject to signage, and more than 100L require emergency response plans.
 Stores exceeding 500 litres of this substance must have at least 2 fire extinguishers.

Other Information Always read the label and any attached leaflet before use.
 Aggregate Storage Volume Thresholds:
 When stored with substances of the same hazard classification the aggregate quantity must be considered. For full details refer to the current NZS8409 Management of Agrichemicals and the HSNO Regulations.

8. Exposure controls/personal protection

Occupational exposure limit values No exposure limits (WES, TEL or EEL's) have been specifically assigned for this product.
 WES TWA for chlorpyrifos technical = 0.2mg/m³ for skin

Appropriate 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 full protective clothing such as chemical resistant boots with socks, a PVC spray suit or coat and trousers (worn outside boots), elbow length gloves, eye protection, waterproof headgear and a NIOSH approved respirator with combination filter for vapour/particles.

Hygiene Measures Do not eat, drink or smoke while using.
 Remove protective clothing and wash hands and face thoroughly before meals and after work. Wash protective clothing daily after work. Wash splashes of concentrate from skin immediately.

9. Physical and chemical properties

Form Liquid

Appearance Amber liquid

Solubility in Water Miscible. Forms an emulsion
 (chlorpyrifos technical = 1.4mg/L @ 25°C)

Specific Gravity 1.10g/mL @ 20°C

pH 4.0 - 8.0 @ 1% solution

Vapour Pressure Not determined
 1.5mm Hg @ 20°C for solvent
 2.7 mPa @ 25°C for chlorpyrifos

Vapour Density (Air=1) Not determined (>1 for solvent)

Volatile Component 40 - 50%

Flash Point 68 °C (PMCC)

Flammable Limits - Lower 0.6%v/v for solvent

Flammable Limits - Upper 7.0%v/v for solvent

Other Information (EC) Emulsifiable concentrate

10. Stability and reactivity

Chemical Stability Stable under normal conditions of handling and storage.

Conditions to Avoid Avoid strong acid or alkali. Avoid oxidising agents. Under adverse conditions, the concentrate may react strongly with powerful oxidising agents.

Incompatible Materials Avoid contact of the concentrate with strong alkalis and alkaline materials such as lime.
 Avoid contact of the concentrate with strong acids.
 50% decomposition of an aqueous-alcoholic solution occurs in ca. 7 days at pH

Infosafe No™ 3NUJG	Issue Date : February 2015	ISSUED by NUFARM
--------------------	----------------------------	------------------

 Product Name **CHLORPYRIFOS 500EC**

10.
Hazardous Polymerization Hazardous polymerisation will not occur.

11. Toxicological Information

Toxicology Information	No specific toxicological data is available for this product. Data below is for constituents.
Acute Toxicity - Oral	LD50 (rat) 96mg/kg for chlorpyrifos
Acute Toxicity - Dermal	LD50 (mouse) 120mg/kg for chlorpyrifos
Acute Toxicity - Inhalation	LC50 (rat) (4-6h) >0.2 mg/L chlorpyrifos
Ingestion	Possible symptoms of exposure include: nausea, vomiting and central nervous system depression. If aspirated into the lung, e.g. from vomiting, the presence of solvent may result in chemical pneumonitis or pulmonary oedema.
Inhalation	When applying the product as a spray avoid breathing in spray mist. Breathing in high concentrations of vapour can produce central nervous system depression, which can lead to loss of coordination, impaired judgement and if exposure is prolonged, unconsciousness.
Skin	The rate of absorption for chlorpyrifos is low hence, the product is moderately toxic by this route. Prolonged contact with the concentrate can cause defatting of the skin and may result in dermatitis.
Eye	The concentrate may cause irritation of the eyes.
Carcinogenicity	Data indicates no carcinogenic effects.
Chronic Effects	Regular exposure may result in lowering of cholinesterase activity which will recover within a few days after exposure ceases.
Subchronic/Chronic Toxicity	NOEL 2yr feeding trial: rat = 1 mg/kg/day for chlorpyrifos Target organ toxicant: Nervous system
Other 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 2014).

12. Ecological information

Persistence and degradability	Chlorpyrifos is not rapidly degradable. Field DT50 = 33-56d for chlorpyrifos.
Environmental Fate	In soil chlorpyrifos is slowly degraded with a half-life of ca. 60-120 days, to 3,5,6-trichloropyridin-2-ol, which is subsequently degraded to organochlorine compounds and carbon dioxide. In animals, following oral administration, rapid metabolism occurs, with the principle metabolites being 3,5,6-trichloro-2-pyridinol and monoethyl chlorpyrifos. Excretion is principally in the urine.
Bioaccumulative Potential	Bioaccumulative. Threespike stickleback BCF = 20860 Freshwater, 21.33 D duration, Flow through. Concentration = 0.19µg/L
Basis for Assessment	Ecotoxicological data have not been determined specifically for this product.
Acute Toxicity - Fish	LC50 (96h) bluegill sunfish is 0.002-0.010mg/L chlorpyrifos LC50 (96h) for tidewater silverside is 0.4µg/L for chlorpyrifos NOEL (720h) (growth) for fathead minnow is 0.012µg/L for chlorpyrifos LC50 (48hr) for daphnia is 1.7 µg/l for chlorpyrifos
Acute Toxicity - Daphnia	
Acute Toxicity - Algae	NOEC for Selenastrum capricornutum >0.4mg/L for chlorpyrifos
Acute Toxicity - Other Organisms	LD50 for pheasant is 8.41 mg/kg for chlorpyrifos Bird: LD50 (pheasant) 8.41mg/kg for chlorpyrifos Bee: LD50 (contact) 0.059µg/bee; (oral) 0.36µg/bee for chlorpyrifos Worms: LC50 (14d) Earthworm (Eisenia foetida) 210mg/kg soil chlorpyrifos

Infosafe No™ 3NUJG	Issue Date : February 2015	ISSUED by NUFARM
--------------------	----------------------------	------------------

Product Name **CHLORPYRIFOS 500EC**

13. Disposal considerations

Product Disposal Dispose of product only by using according to the label, or at an approved landfill.

Container Disposal METAL: Triple rinse empty container and add rinsate to spray tank. Crush and bury in suitable landfill.
PLASTIC: Triple rinse empty container and add rinsate to the spray tank. Recycle empty container. Otherwise crush and bury in a suitable landfill.

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 3018

UN proper shipping name ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC - (chlorpyrifos, 50%)

Transport hazard class(es) 6.1

Hazchem Code 2X

Packaging Method -

Packing Group III

EPG Number -

IERG Number 35

IMO Marine Pollutant Yes. Environmentally Hazardous Substance mark required.

EMS F-A, S-A

Other Information Do not carry this product on a passenger service vehicle.
Segregation: Check the latest Land Transport Rule Dangerous Goods Rule 45001 for additional information. Sea transport may require additional segregation. Refer NZS5433 sea segregation for details.

15. Regulatory information

National and or International Regulatory Information Registered pursuant to the ACVM Act 1997, No. P7842
See www.foodsafety.govt.nz for registration conditions
Approved pursuant to the HSNO Act 1996, Approval Code HSR000224
See www.epa.govt.nz for approval controls.

Packaging & Labelling WARNING - combustible liquid
TOXIC * ECOTOXIC - keep out of reach of children

Hazard Rating Systems NFPA/HMIS: 3-2-1

16. Other Information

Date of preparation or last revision of SDS October 2014

Contact Person/Point IN AN EMERGENCY, DIAL 111 - FIRE OR POLICE
24Hr Tollfree Emergency No: 0800 651 911
24Hr Emergency No: National Poisons Centre Phone: 0800 764 766

Revisions Highlighted The SDS was reviewed. Various changes were made following organophosphate and carbamate reassessment.
...End Of MSDS...

© Copyright ACOHS Pty Ltd

Copyright in the source code of the HTML, PDF, XML, XFO and any other electronic files rendered by an Infosafe system for Infosafe MSDS displayed is the intellectual property of Acohs Pty Ltd.

Copyright in the layout, presentation and appearance of each Infosafe MSDS displayed is the intellectual property of Acohs Pty Ltd.
The compilation of MSDS's displayed is the intellectual property of Acohs Pty Ltd.

Copying of any MSDS displayed is permitted for personal use only and otherwise is not permitted. In particular the MSDS's displayed cannot be copied for the purpose of sale or licence or for inclusion as part of a collection of MSDS without the express written consent of Acohs Pty Ltd.