

Infosafe No™ 3NUJG	Issue Date : August 2019	ISSUED by NUFARMNZ
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 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
Emergency phone number	0800 651 911
Email	nzinfo@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

Signal Word (s)	DANGER
Hazard Statement (s)	H227 Combustible liquid H301 Toxic if swallowed. H311 Toxic in contact with skin. H316 Causes mild skin irritation. H319 Causes serious eye irritation. H331 Toxic if inhaled. H361 Suspected of damaging fertility or the unborn child. H372 Causes damage to the nervous system through prolonged or repeated exposure. H410 Very toxic to aquatic life with long lasting effects. H422 Toxic to soil environment. H431 Very toxic to terrestrial vertebrates. H441 Very toxic to terrestrial invertebrates.
General Precautionary Statement (s)	P102 Keep out of reach of children. P103 Read label before use.
Pictogram (s)	Health hazard, Skull and crossbones, Environment, <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;">    </div>
Precautionary statement – 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/sparks/open flames/hot surfaces. – No smoking. P260 Do not breathe dust/fume/gas/mist/vapours/spray. P264 Wash hands and face thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves, protective clothing, eye protection.
Precautionary statement – Response	P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P302+P352 IF ON SKIN: Wash with plenty of soap and water. P332+P313 If skin irritation occurs: Get medical advice/attention. P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.

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Remove contact lenses, if present and easy to do. Continue rinsing.
 P337+P313 If eye irritation persists: Get medical advice/attention.
 P308+P313 IF exposed or concerned: Get medical advice.
 P312 Call a POISON CENTER or doctor if you feel unwell.
 P321 Specific treatment. Atropine is the specific antidote.
 P322 Specific measures. Wash effected areas with soap and water.
 P330 Rinse mouth.
 P361 Remove immediately all contaminated clothing.
 P363 Wash contaminated clothing before reuse.
 P370+P378 In case of fire: Use water fog, foam, carbon dioxide or dry chemical for extinction. Do not use water in a jet.
 P391 Collect spillage.
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.
 P403+P235 Store in a well-ventilated place. Keep cool.
 P405 Store locked up.

Precautionary statement – Storage

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
 Danger- Toxic if swallowed, inhaled or in contact with skin. Causes serious eye irritation and mild skin irritation. Suspected of damaging fertility or the unborn child. Causes damage to the nervous system through prolonged or repeated exposure.
 ECOTOXIC
 Very toxic to aquatic life with long lasting effects.
 Toxic to soil environment.
 Very toxic to terrestrial vertebrates and terrestrial invertebrates.
 Very toxic to bees.

3. Composition/information on ingredients

Chemical	Liquid		
Characterization			
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.

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

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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
Decomposition Temp.	Data not available.
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	Do not handle all safety precautions have been read and understood. Avoid skin and eye contact and inhalation of spray mist. CERTIFIED HANDLER: Not required. It is the duty of the PCBU that a person who uses, handles, manufactures or stores CHLORPYRIFOS 500EC (including hazardous waste) is provided information, instruction and training in accordance with Regulation 4.5 of the Health and Safety at work (Hazardous Substances) Regulations 2017. TRACKING: Not required. 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. Keep out of reach of children.
Conditions for safe storage, including any incompatibilities	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

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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

Odour Data not available.

Decomposition Temperature Data not available.

Melting Point Data not available.

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%

Partition Coefficient: n-octanol/water Data not available for product.
KowlogP=4.7 for Chlorpyrifos technical

Flash Point 68 °C (PMCC)

Flammability Not applicable.

Auto-Ignition Temperature Data not available.

Flammable Limits - Lower 0.6%v/v for solvent

Flammable Limits - Upper 7.0%v/v for solvent

Initial boiling point and boiling range Data not available.

Other Information (EC) Emulsifiable concentrate

10. Stability and reactivity

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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 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.
Skin Sensitisation	Information not available.
Germ cell mutagenicity	Information not available.
Carcinogenicity	Data indicates no carcinogenic effects.
Reproductive Toxicity	Information not available.
STOT-single exposure	Information not available.
STOT-repeated exposure	Information not available.
Aspiration Hazard	Information not available.
Chronic Effects	Regular exposure may result in lowering of cholinesterase activity which will recover within a few days after exposure ceases.
Serious eye damage/irritation	Causes serious eye irritation.
Respiratory Irritation	Information not available.
Skin corrosion/irritation	Skin irritant.
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

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Persistence and degradability	Chlorpyrifos is not rapidly degradable.
Mobility	Field DT50 = 33-56d for chlorpyrifos. Information not available.
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
Acute Toxicity - Daphnia	LC50 (48hr) for daphnia is 1.7 µg/l for chlorpyrifos
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

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.
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Safety Data Sheet

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Product Name **CHLORPYRIFOS 500EC**

Packaging & Labelling WARNING - combustible liquid
TOXIC * ECOTOXIC - keep out of reach of children
Hazard Rating NFPA/HMIS: 3-2-1
Systems

16. Other Information

Date of preparation or last revision of SDS February 2015.

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 to incorporate GHS updates.

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