

Infosafe No™ 3NUJG	Issue Date : March 2025	ISSUED by NUFARMNZ
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Product Name **CHLORPYRIFOS 500EC**

Section 1 - Identification

Product Identifier	CHLORPYRIFOS 500EC
Product Code	03361
Product Type	Organophosphate Insecticide
Company Name	Nufarm NZ
Address	Central Park, Building 3, Level 4, 666 Great South Road Ellerslie Auckland 1051 New Zealand
Telephone/Fax Number	Tel: 0-9-270 4150
Emergency Phone Number	0800 651 911
Email	nzinfo@nufarm.com
Recommended uses and any restrictions on use or supply	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.

Section 2 - Hazard(s) Identification

GHS classification of the substance/mixture	Flammable liquids: Category 4 Acute oral toxicity: Category 3 Acute dermal toxicity: Category 3 Acute inhalation toxicity: Category 4 Aspiration hazard: Category 1 Eye irritation Category 2 Reproductive toxicity: Category 2 Specific target organ toxicity - repeated exposure: Category 1 Hazardous to the terrestrial environment: Hazardous to soil organisms Hazardous to the terrestrial environment: Hazardous to terrestrial vertebrates Hazardous to the terrestrial environment: Hazardous to terrestrial invertebrates Hazardous to the aquatic environment acute Category 1 Hazardous to the aquatic environment chronic Category 1
Signal Word (s)	DANGER
Hazard Statement (s)	H227 Combustible liquid H301 Toxic if swallowed. H311 Toxic in contact with skin. H332 Harmful if inhaled. H304 May be fatal if swallowed and enters airways. 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.
Precautionary Statement – General	P101 If medical advice is needed, have product container or label at hand. P102 Keep out of reach of children. P103 Read carefully and follow all instructions.
Pictogram (s)	Skull and crossbones, Health hazard, Environment

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Precautionary Statement – Prevention

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.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P261 Avoid breathing 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.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

Precautionary Statement – Response

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P302+P352 IF ON SKIN: Wash with plenty of water.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P312 Call a POISON CENTER/doctor if you feel unwell.
P314 Get medical advice/attention if you feel unwell.
P330 Rinse mouth.
P331 Do NOT induce vomiting.
P337+P313 If eye irritation persists: Get medical advice/attention.
P361 Take off immediately all contaminated clothing.
P363 Wash contaminated clothing before reuse.
P370+P378 In case of fire: Use to extinguish.
P391 Collect spillage.

Precautionary Statement – Storage

P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Precautionary Statement – Disposal

P501 Dispose of contents/container to an approved landfill.

Section 3 - Composition and Information on Ingredients

Chemical Characterization	Liquid		
Ingredients	Name	CAS	Proportion
	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		

Section 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.

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Eye	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.

Section 5 - Firefighting 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 Temperature	Information is not available.
Other Information	Location Certificate: Not applicable Hazardous Atmosphere Zone: Not applicable Number of Fire Extinguishers: 2 for 500L or more

Section 6 - Accidental Release Measures

Spills and 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.

Section 7 - Handling and Storage

Precautions for Safe Handling	Do not handle all safety precautions have been read and understood. The person mixing or applying CHLORPYRIFOS 500EC must be a 'Qualified Contractor' or a 'Qualified Person'. The spray mixture may also be prepared by a 'Qualified Loader'. It is the duty of the PCBU that a person who uses, handles, manufactures or stores a hazardous substance (including hazardous waste) is provided information, instruction and training in accordance with Regulation 4.5 of the Health and Safety at work (Hazardous Substances)
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<p>Conditions for safe storage, including any incompatibilities</p> <p>Other Information</p>	<p>Regulations 2017.</p> <p>Avoid skin and eye contact and inhalation of spray mist.</p> <p>This product must not be applied onto or into water.</p> <p>CERTIFIED HANDLER: Is not required.</p> <p>TRACKING: Is not required.</p> <p>RESTRICTED TO WORKPLACE : A person may use and store the substance only in a workplace.</p> <p>A person may supply the substance only to:</p> <p>(a) a workplace under the management and control of a PCBU, and only if the person has received written notification that a competent person at the workplace will accept responsibility for the substance; or</p> <p>(b) an authorised person, if the person has received written notification that the authorised person will accept responsibility for the substance.</p> <p>RECORD KEEPING: Records of use as described in NZS 8409 Management of Agrichemicals, must be kept if 3 kg or more of CHLORPYRIFOS 500EC is applied within 24 hours. Records must be kept for minimum of 3 years from application date.</p> <p>A person who supplies the substance must retain the following written records for 12 months from the date of transfer of the substance:</p> <p>(a) the product name or chemical name of the substance transferred; and</p> <p>(b) the identity and address of the competent person or authorised person that received the transferred substance; and</p> <p>(c) the date on which the transfer occurred; and</p> <p>(d) a copy of the notification.</p> <p>A competent person means:</p> <p>(a) a certified handler; or</p> <p>(b) a person who has received information, instruction, and training in accordance with regulation 4.5.</p> <p>An authorised person means a person who holds a permission granted by the Authority under section 95A of the Act to use the substance in a place that is not a workplace.</p> <p>Do not store near heat or flame.</p> <p>Keep locked up Keep out of reach of children.</p> <p>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.</p> <p>Stores containing 100L of CHLORPYRIFOS 500EC require secondary containment and are subject to signage, and more than 100L require emergency response plans.</p> <p>Stores exceeding 500 litres of this substance must have at least 2 fire extinguishers.</p> <p>Always read the label and any attached leaflet before use.</p> <p>Aggregate Storage Volume Thresholds:</p> <p>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.</p>
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Section 8 - Exposure Controls and Personal Protection

<p>Exposure Controls/Personal Protection</p> <p>Occupational Exposure Limits (OEL)</p> <p>Appropriate Engineering Controls</p> <p>Personal Protective Equipment</p>	<p>Restricted Entry Interval (REI): Pipfruit, stonefruit: 24 hours</p> <p>The person in charge is responsible for making sure no person enters the application area before the end of the REI. If entering an application area during the REI, ensure appropriate Personal Protective Equipment (PPE) is worn.</p> <p>No exposure limits (WES, TEL or EEL's) have been specifically assigned for this product.</p> <p>WES TWA for chlorpyrifos technical = 0.2mg/m³ for skin</p> <p>Handle in well ventilated areas, generally natural ventilation is adequate.</p> <p>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</p>
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Hygiene Measures	<p>protection, waterproof headgear and a NIOSH approved respirator with combination filter for vapour/particles.</p> <p>Do not eat, drink or smoke while using.</p> <p>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.</p>
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Section 9 - Physical and Chemical Properties

Form	Liquid
Appearance	Amber liquid.
Odour	Information is not available.
Decomposition Temperature	Information is not available.
Melting Point	42-43.5°C for active ingredient chlorpyrifos.
Boiling Point	>400°C for active ingredient chlorpyrifos.
Solubility in Water	Miscible. Forms an emulsion
Specific Gravity	1.10g/mL @ 20°C
pH	4.0 - 8.0 @ 1% solution
Vapour Pressure	2.7mPa (25°C) for active ingredient chlorpyrifos.
Vapour Density (Air=1)	Information is not available.
Odour Threshold	Information is not available.
Volatile Component	40 - 50%
Partition Coefficient: n-octanol/water	Kow logP = 4.7 for active ingredient chlorpyrifos.
Flash Point	68 °C (PMCC)
Flammability	Information is not available.
Auto-ignition Temperature	Information is not available.
Flammable Limits - Lower	0.6%v/v for solvent.
Flammable Limits - Upper	7.0%v/v for solvent.
Kinematic Viscosity	Information is not available.
Particle Characteristics	Information is not available.
Other Information	(EC) Emulsifiable concentrate

Section 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.
Hazardous Polymerization	50% decomposition of an aqueous-alcoholic solution occurs in ca. 7 days at pH 10. Hazardous polymerisation will not occur.

Section 11 - Toxicological Information

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Toxicology Information	No specific toxicological data is available for this product. Data below is for constituents.
Acute Toxicity - Oral	LD50 (rat) 135-163mg/kg for active ingredient chlorpyrifos.
Acute Toxicity - Inhalation	LC50 (rat) (4-6h) >0.2 mg/L (14ppb) for active ingredient chlorpyrifos.
Acute Toxicity - Dermal	LD50 (rabbit) >5000mg/kg for active ingredient 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 Corrosion/Irritation	Skin irritant.
Serious Eye Damage/Irritation	Causes serious eye irritation.
Skin Sensitisation	Information is not available.
Germ Cell Mutagenicity	Information is not available.
Carcinogenicity	Information is not available.
Reproductive Toxicity	Suspected of damaging fertility or the unborn child.
STOT - Single Exposure	Information is not available.
STOT - Repeated Exposure	Causes damage to the nervous system through prolonged or repeated exposure.
Aspiration Hazard	May be fatal if swallowed and enters airways.
Subchronic/Chronic Toxicity	NOEL 2yr feeding trial: rat = 1 mg/kg/day for chlorpyrifos Target organ toxicant: Nervous system
Chronic Effects	Regular exposure may result in lowering of cholinesterase activity which will recover within a few days after exposure ceases.
Other Information	The Australian Acceptable Daily Intake (ADI) for chlorpyrifos for a human is 0.001 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 0.1 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: Aust Govt Dept. of APVMA, 'ADI List', Edition 1/2024).

Section 12 - Ecological Information

Persistence and Degradability	In soil, chlorpyrifos is degraded at a moderate rate; field soil-incorporated applications DT50 = 33-56d, soil-surface applications DT50 = 7-15d for active ingredient chlorpyrifos.
Mobility	for active ingredient chlorpyrifos.
Bioaccumulative Potential	Bioaccumulative. Threespike stickleback BCF = 20860 Freshwater, 21.33 D duration, Flow through. Concentration = 0.19µg/L
Acute Toxicity - Fish	LC50 (96h) bluegill sunfish is 0.002-0.010mg/L for active ingredient chlorpyrifos.
Acute Toxicity - Daphnia	LC50 (48h) is 0.002-0.010mg/L for active ingredient chlorpyrifos.

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Acute Toxicity - Algae	NOEC for Selenastrum capricornutum >0.4mg/L for active ingredient chlorpyrifos.
Acute Toxicity - Other Organisms	Bird: LD50 (mallard ducks) 490mg/kg for active ingredient chlorpyrifos. Bee: Toxic to bees. LD50 (contact) 70ng/bee; (oral) 360ng/bee for active ingredient chlorpyrifos. Worms: LC50 (14d) (Eisenia foetida) 210mg/kg soil for active ingredient chlorpyrifos.

Section 13 - Disposal Considerations

Product Disposal	Dispose of product only by using according to the label, or at an approved landfill.
Container Disposal	Triple rinse empty container and add rinsate to the spray tank. Recycle empty container. Otherwise crush and bury in a suitable landfill.

Section 14 - Transport Information

Transport Information	It is good practice not to transport agricultural chemical products with food, food related materials and animal feedstuffs.
UN Number	3018
Proper Shipping Name	ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC - (chlorpyrifos)
Hazard Class	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.

Section 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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Section 16 - Any Other Relevant Information

Date of preparation or last revision of SDS	October 2024.
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	Update to include WorkSafe set Re-entry Intervals (REIs). ...End Of MSDS...

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