



SECTION 1: IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

Product Identifier	Generifos 500 EC Insecticide
Active Constituent	500g/L Chlorpyrifos (an anticholinesterase compound) SOLVENT: 488 g/L LIQUID HYDROCARBONS
Other means of Identification	GROUP 1B INSECTICIDE. Grow Choice product code number: 500 AVPMA registered number: 53428
Recommended use of the chemical and restrictions on due	For the control of certain insect pests in crops as specified in the Directions for Use
Suppliers name, address and phone number:	Grow Choice Pty Ltd 113 Fitzroy Street TAMWORTH NSW 2340 Phone: 02 6766 3979 1800 817 676 Fax: 02 6766 2922 Email: admin@growchoice.com.au
Emergency phone number:	In Case Of Emergency Dial 000
Poisons Information Centre	Phone: 13 11 26 and speak to a Poisons Information Specialist. Fax: +61 2 9845 3597 http://www.chw.edu.au/poisons/contact.htm

SECTION 2: HAZARDS IDENTIFICATION (continued on page 2)

- Classified as **HAZARDOUS** in accordance with the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004) 3rd Edition and the Globally Harmonized System of Classification and Labelling of Chemicals (the GHS).
- Considered **non-dangerous** for road and rail transport by the Australian Code for the Transport of Dangerous Goods Road and Rail (August 2014 edition)
- Considered **DANGEROUS** for transport by sea and air in accordance with the IMDG Code 37-14

2.1 Classification of the hazardous chemical

Acute Toxicity (Oral)	Category 3
Aspiration Hazard	Category 1
Hazardous to aquatic environment (acute)	Category 1
Hazardous to aquatic environment (acute)	Category 1

2.2 Label Elements

Signal word
GHS Symbols

DANGER



Skull & Crossbone



Health Hazard



Environment

Hazard Statements **H301 Toxic if swallowed.**

H304 May be fatal if swallowed and enters airways
H400 Very toxic to aquatic life (acute)
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements

General	P101	If medical advice is needed, have product container or label at hand.
	P102	Keep out of reach of children.
	P103	Read label before use
Prevention	P264	Wash hands, arms, face, neck and any exposed skin thoroughly after handling.
	P270	Do not eat, drink or smoke when using this product.
	P273	Avoid release to the environment.
Response	P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
	P330	Rinse mouth
	P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
	P331	Do NOT induce vomiting
	P391	Collect spillage.
Storage	P403 +P235 +P233	Store in a well-ventilated place. Keep cool. Keep container tightly closed.
	P405	Store locked up
Disposal	P501:	Dispose of contents and container in accordance with local, regional and national regulations.

SECTION 3: COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical ingredients: CAS number and other unique identifiers: Concentration of ingredients:	Component	CAS No	Concentration %
	Chlorpyrifos	2921-88-2	50.0%
	Hydrocarbon solvent (Solvesso 150)	64742-94-5	48.5%
	General surfactants	(non-hazardous)	10% w/v

SECTION 4: FIRST AID MEASURES (continued on page 3)

In Case Of Emergency Dial 000 and/or Poisons Information Centre: Phone: 13 11 26 and speak to a Poisons Information Specialist. Take this SDS and or DFU/Label with you or when calling the Poisons Information Centre.

Inhalation:

If product is inhaled, remove person 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. Seek medical attention if irritation persists or symptoms occur.

Eye Contact:

In case of eye contact, hold eyelids open and rinse with water for at least 15 minutes. Seek medical attention if symptoms occur.

Ingestion:

If product swallowed in any form, do not induce vomiting. **SEEK URGENT MEDICAL ATTENTION, CALL THE POISON CENTRE.** Immediately rinse mouth with water. Give a glass of water. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Do not give anything by mouth to an unconscious person. Seek immediate medical attention.

Symptoms Caused by Exposure:

Ingestion: Toxic if swallowed. May cause numbness, tingling sensations, incoordination, headache, dizziness, nausea, abdominal cramps, excessive sweating and salivation, blurred vision,

respiratory depression, unconsciousness, incontinence, convulsions, fatigue, slowed heart rate, seizures and possible fatality.

Inhalation: May cause symptoms similar to ingestion as detailed above.
Skin Contact: May cause symptoms similar to ingestion as detailed above.
Eye Contact: May cause eye irritation, stinging, reddening and watering.

SECTION 5: FIRE FIGHTING MEASURES

Suitable extinguishing media	In event of fire, use fire extinguishing methods suitable to the surrounding conditions.
Specific hazards arising from the chemical	Hazardous combustion products include oxides of carbon, nitrogen, nitrogen oxides, other nitrogen compounds, hydrogen cyanide, oxides of sulphur, other sulphur compounds, oxides of phosphorous, other phosphorous compounds, hydrogen chloride, other chlorine compounds, smoke and water. Product is combustible. Closed containers may explode when exposed to extreme heat. Containers close to fire should be removed if safe to do so. Use water spray to cool fire exposed containers.
Special protective equipment and precautions for fire fighters	Fire fighters should wear full protective gear, including self-contained breathing apparatus (AS/NZS 1715/1716). Keep unnecessary people away. If it can be done safely, remove intact containers from the fire. Otherwise, use water spray to cool them. Bund area with sand or earth to prevent contamination of drains or waterways. Dispose of fire control water or other extinguishing agent and spillage safely later.
Hazchem Code	2X

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	In case of spillage it is important to take all steps necessary to: Avoid contact with the spilled material or contaminated surfaces. Extinguish or remove any sources of ignition. When dealing with spills do not eat, drink or smoke and wear protective clothing and equipment. Keep people and animals away. Prevent spilled material from entering drains or watercourses.
Environmental precautions	Do not allow to get into surface water, drains and ground water. If the product contaminates rivers and lakes or drains inform respective authorities. Reposition any leaking containers so as to minimise leakage. Dam and absorb spill with an absorbent material (eg sand or soil). Shovel the absorbed spill into drums
Methods and materials for containment and cleaning up	Contain spill and absorb with earth, sand, clay, or other absorbent material. Collect and store in properly labelled, sealed drums for safe disposal. Deal with all spillages immediately.). Clean contaminated floors and objects thoroughly, observing environmental regulations If contamination of drains, streams, watercourses, etc. is unavoidable, warn the local water authority.
6.4 Reference to other sections	Information regarding safe handling see section 7. Information regarding personal protective equipment see section 8. Information regarding waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE (continued on page 4)

Precautions for safe handling	Safe work practices are recommended. Avoid contact with eyes and skin. When opening the container and preparing spray wear appropriate PPE (refer Section 8). Do not spray under high wind conditions. Hygiene measures: When using products, do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace. Wash hands thoroughly with soap and water after use and before eating, drinking, smoking/using tobacco, chewing gum, using the toilet or applying cosmetics. After each day's use, wash gloves, face shield or goggles and contaminated clothing. Avoid contact with eyes and skin.
Conditions for	Keep out of reach of children, unauthorised persons and animals.

safe storage, including any incompatibilities: Store in tightly sealed original containers in a dry secure place away from fertilizers, feed and food.
 Store out of direct sunlight and extreme temperature.
 Always read the label and any attached leaflet before use.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Standards: 291-88-2 chlorpyrifos

NES TWA: 0.2 mg/m³
 SK

Appropriate engineering controls No special requirements. Product is used outdoors
 Control process conditions to avoid contact. Use only in well-ventilated areas. If necessary, use local exhaust ventilation to keep airborne concentration below the exposure limits.

Personal protective equipment (PPE): When opening the container, preparing the spray wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow length PVC chemical resistant and face shield or goggles.

When using the prepared spray, wear cotton overalls buttoned to the neck and wrist and a washable hat and optional once chemical is prepared for use, elbow length PVC chemical resistant and face shield or goggles if protected from spray drift/contamination.

Face and Eye Protection: Face shield or goggles.

Clothing: Cotton overalls buttoned to the neck and wrist (or equivalent clothing) and a washable hat.

Gloves: Elbow-length chemical resistant PVC gloves.

Respiratory: If airborne concentrations are likely to exceed the exposure standards above or if exposed to dust, an AS/NZS 1715/1716 approved respirator should be worn.

Recommended to use Australian and New Zealand Standard PPE:

Overalls AS 3765, Clothing for protection against Hazardous chemicals

Gloves: AS/NZS 2161, Industrial safety gloves and mittens (not electrical and medical gloves)

Goggles and face shield AS/NZS 1337, Eye protectors for industrial applications.

Footwear AS/NZS 2210, Occupational protective footwear

Respirators AS NZS 1715 Selection, Use and Maintenance of Respiratory Protective Devices

AS/NZS 1716, Respiratory Protective Devices

Requirements Concerning Training Check State and/or Territory regulations that require people who use pesticides in their job or business to have adequate training in the application of the materials.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Form:	Liquid
Colour:	Straw coloured
Odour:	Characteristic hydrocarbon
Odour Threshold	No information available
pH-Value:	No information available
Melting point/Melting range	No information available
Initial Boiling Point/Boiling Range	>178°C
Flash Point	>63 °C
Flammability	Combustible Liquid Class 1
Auto-ignition Temperature	No information available
Decomposition Temperature:	No information available
Explosion Limits: Upper and Lower	No information available
Vapour Pressure at 20 °C	<0.074 kPa
Relative Density at 20 °C:	1.05-1.10
Vapour Density:	No information available
Evaporation Rate at 20 °C:	<0.06
Solubility in Water	Emulsifies into water.
% Volatiles by Weight	48 %

SECTION 10: STABILITY AND REACTIVITY

Possibility of Hazardous Reactions: Hazardous polymerisation will not occur.

Chemical Stability: Stable at ambient temperature and under normal conditions of use.

Conditions to Avoid: Heat, sparks, open flames, hot surfaces and direct sunlight.

Incompatible Materials: Strong oxidising agents, strong acids and strong bases.

Hazardous Decomposition Products:

Oxides of carbon, nitrogen, nitrogen oxides, other nitrogen compounds, hydrogen cyanide, oxides of sulphur, other sulphur compounds, oxides of phosphorous, other phosphorous compounds, hydrogen chloride, other chlorine compounds, smoke and water.

SECTION 11: TOXICOLOGICAL INFORMATION (continued on page 6)

Toxicity:

LD₅₀/LC₅₀ Values Relevant for Classification: 2921-88-2 Chlorpyrifos (ISO)

Oral	LD ₅₀	mg/kg (Iepomis macrochirus)
		1000 mg/kg (rabbit)
		500-504 mg/kg (guinea pig)
Dermal	LD ₅₀	60 mg/kg (mice)
		1000-2000 mg/kg (rabbit)
		>2000 mg/kg (rat)
Inhalation	LC ₅₀ /4 h	>0.2 mg/L (rat)

Acute Health Effects

Ingestion:

Toxic if swallowed. May cause numbness, tingling sensations, incoordination, headache, dizziness, nausea, abdominal cramps, excessive sweating and salivation, blurred vision, respiratory depression, unconsciousness, incontinence, convulsions, fatigue, slowed heart rate, seizures and possible fatality.

Inhalation: May cause symptoms similar to ingestion as above.

Skin: May cause symptoms similar to ingestion as above.

Eye: May cause eye irritation, stinging, reddening and watering.

Skin Corrosion / Irritation: Based on classification principles, the classification criteria are not met.

Serious Eye Damage / Irritation: Based on classification principles, the classification criteria are not met.

Respiratory or Skin Sensitisation: Based on classification principles, the classification criteria are not met.

Germ Cell Mutagenicity: Based on classification principles, the classification criteria are not met.

Carcinogenicity: This product does NOT contain any IARC listed chemicals.

Reproductive Toxicity: Based on classification principles, the classification criteria are not met.

Specific Target Organ Toxicity (STOT) - Single Exposure:

Based on classification principles, the classification criteria are not met.

Specific Target Organ Toxicity (STOT) - Repeated Exposure:

Based on classification principles, the classification criteria are not met.

Aspiration Hazard: Based on classification principles, the classification criteria are not met.

Chronic Health Effects:

Repeated or prolonged exposure to organophosphates may result in the same effects as acute exposure including the delayed symptoms. Other effects reported in workers repeatedly exposed include impaired memory and concentration, disorientation, severe depressions, irritability, confusion, headache, speech difficulties, delayed reaction times, nightmares, sleepwalking, and drowsiness or insomnia.

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', June 2014).

Chlorpyrifos primarily affects the nervous system through inhibition of cholinesterase, an enzyme required for proper nerve functioning. Chlorpyrifos is readily absorbed into the bloodstream through the gastrointestinal tract if it is ingested, through the lungs if it is inhaled, or through the skin if there is dermal exposure. In humans, chlorpyrifos and its principal metabolites are eliminated rapidly.

SECTION 12: ECOLOGICAL INFORMATION

Eco toxicity: Serious hazard to wildlife and bees.

Aquatic toxicity: Very Toxic to aquatic life with long lasting effects.

Persistence and Degradability:

Persistent in soils. Half-life in soil normally ranges from 60 to 120 days, though may be as long as a year, depending on soil type.

Bio accumulative Potential: No information available

Mobility in Soil: Due to relatively low solubility and strong potential to adsorb to soil, chlorpyrifos is immobile in soils.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal of product	On site disposal of the concentrated product is not acceptable. Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals (ChemClear®).
Disposal of Container	Do not use this container for any other purpose. Triple rinse containers; add rinsate to the spray tank, then offer the container for recycling/reconditioning, or puncture top, sides and bottom and dispose of in landfill in accordance with local regulations. drumMUSTER is the national program for the collection and recycling of empty, cleaned, non-returnable crop production and on-farm animal health chemical containers. If the label on your container carries the drumMUSTER symbol, triple rinse the container, ring your local Council, and offer the container for collection in the program. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, puncture or shred and bury containers in local authority landfill. If no landfill is available, bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

SECTION 14: TRANSPORT INFORMATION (continued on page 7)

General Transport Information	It is considered good practice not to transport agricultural chemical products with food, food related materials and animal feed products.
Land	Considered DANGEROUS for road and rail transport by the Australian Code for the Transport of Dangerous Goods Road and Rail (August 2014 edition).
Sea and Air	Considered DANGEROUS for transport by sea and air in accordance with the IMDG Code 37-14
UN Number	UN3018
Proper Shipping Name	3018 ORGANOPHOSPHEROUS PESTICIDES, LIQUID TOXIC, (chlorpyrifos (ISO))
ADG	
IMDG	ORGANOPHOSPHEROUS PESTICIDES, LIQUID TOXIC, (chlorpyrifos (ISO)), MARINE POLLUTANT
IATA	ORGANOPHOSPHEROUS PESTICIDES, LIQUID TOXIC, (chlorpyrifos (ISO))
Dangerous Goods Class	
ADG Class:	6.1 Toxic substances

Packing Group: ADG, IMDG, IATA	III
Marine pollutant	Yes
EMS Number:	Symbol (fish and tree) F-A,S-A
Hazchem Code:	2X
Special Provisions:	61, 223, 274
Limited Quantities:	5L
Packagings & IBCs - Packing Instruction:	P001, IBC03, LP01
Packagings & IBCs - Special Packing Provisions	No information available
Portable Tanks & Bulk Containers - Instructions	T7
Portable Tanks & Bulk Containers – Special Provisions:	TP2, TP28

SECTION 15: REGULATORY INFORMATION

Australian Inventory of Chemical Substances:

2921-88-2 Chlorpyrifos (ISO)

Standard for the Uniform Scheduling of Drugs and Poisons (SUSMP) - Poison Schedule: Poisons Schedule: 6

SECTION 16: OTHER INFORMATION

Review: This SDS was reviewed on 28 January 2017 and replaces MSDS dated 02/08/10

Acronyms:

AVPMA: Australian Pesticides and Veterinary Medicines Authority.
GHS: Globally Harmonised system of Classification and Labelling of chemicals
HSIS: Hazardous Substances Information System
NOHSC: National Occupational Health and Safety Commission
CAS No.: unique numerical identifier assigned by Chemical Abstracts Service (division of the American Chemical Society)
STEL Exposure standard - short term exposure limit.
AS/NZS: Australian Standards and New Zealand Standards for Personal protective equipment
ADI: Acceptable Daily Intakes For Agricultural And Veterinary Chemicals
ADG: Australian Dangerous Goods
IMDG: International Maritime Code of Dangerous Goods
IATA: International Air Transport Association

End of SDS

DISCLAIMER:

This SAFETY DATA SHEET has been developed according to the Work Health and Safety Regulations (WHS Regulations) Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals December 2011. The data, information and recommendations herein ("information") are represented in good faith and believed to be correct as of the date hereof. The purpose of this SAFETY DATA SHEET is to describe product in terms of their safety requirements. Grow Choice Pty Ltd makes no representation of merchantability, fitness for a particular purpose of application, or of any other nature with respect to the information or the product to which the information refers ("the product"). The information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purpose prior to the use of the product. The physical data shown herein are typical values based on the material tested. These values should not be construed as a guaranteed analysis of any specific lot or as guaranteed specification for the product or specific lots thereof.

Due care should be taken to make sure that the use or disposal of this product and/or its packaging is in compliance with Relevant Federal, State and Local Government regulations.