



# AGRO-ALLIANCE (AUSTRALIA) PTY LTD

**AGRO-ALLIANCE**  
(AUSTRALIA) PTY LTD  
A.B.N. 11 130 864 603

2, Mavron Street, Ashwood, VIC 3147, Australia  
Tel: +61 3 86442677 / 86442679 Fax: +61 3 98073883 Email: info@agroalliance.com.au

## **Section 1 - Identification of Chemical Product and Company**

Chlorpyrifos 500

**Trade Name:** Agro-Essence Chlorpyrifos 500 Insecticide  
**Product Use:** A liquid broad spectrum insecticide  
**Company:** Agro-Alliance (Australia) Pty Ltd.  
**Address:** 2, Mavron Street, Ashwood VIC 3147, Australia  
**Telephone Number:** +61 03 86442677 / 86442679  
**Fax Number:** +61 03 98073883  
**Website:** [www.agroalliance.com.au](http://www.agroalliance.com.au)  
**Issue Date:** June 2013

## **Section 2 - Hazards Identification**

**Classified as hazardous according to criteria of Safe Work Australia.**

**Classified as a Dangerous Good according to the ADG Code**

Risk Phrases: R24/25 Toxic in contact with the skin and if swallowed.

R36 Irritating to the eyes.

R65 harmful: may cause lung damage if swallowed.

R33 Danger of cumulative effects

Safety Phrases: S2 Keep out of reach of children.

S13 Keep away from food, drink and other animal foodstuffs.

S24/25 Avoid contact with skin and eyes.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

## **Section 3 - Composition/Information on Ingredients**

**Ingredients:**

CHEMICAL	CAS NUMBER	PROPORTION
Chlorpyrifos	2921-88-2	500 g/L
Hydrocarbon liquid	64742-94-5	495 g/L
Other ingredients determined not to be hazardous		Up to 100%



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## **Section 4 - First Aid Measures**

### **FIRST AID**

**Ingestion:** If swallowed do NOT induce vomiting. Wash mouth with water. If poisoning occurs, contact a Doctor or Poisons Information Centre. Phone 131 126. If swallowed, activated charcoal may be advised. Give atropine if instructed.

**Eye contact:** Immediately hold eyes open and flood gently with clean water. Ensure irrigation under eyelids by occasionally lifting them. Do not try to remove contact lenses unless trained. If irritation persists, seek medical advice.

**Skin contact:** Remove contaminated clothing. Wash skin with soap and water to remove chemical. If skin is irritated, seek medical advice.

**Inhalation:** Remove to fresh air and observe until recovered. If effects persist, seek medical advice. In severe case, symptoms of pulmonary oedema can be delayed up to 48 hours after exposure.

**Advice to Doctor:** Chlorpyrifos is an anti-cholinesterase compound. Atropine by injection, is the preferred antidote. Oximes, such as 2-PAM/Protopam, may be therapeutic if used early; however, use only in conjunction with atropine. If exposed, plasma and red blood cell cholinesterase tests may indicate significance of exposure (baseline data are useful). Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. This product also contains aromatic solvents which may produce a chemical pneumonitis; therefore, vomiting is not recommended, and lavage requires intubation. Activated charcoal and cathartics will assist gastrointestinal tract evacuation.

## **Section 5 - Fire Fighting Measures**

**Extinguishing media:** Combustible liquid (C1). Flash point > 62°C. Extinguish fire using carbon dioxide, foam or dry agent. If not available, use waterfog or fine water spray but ensure all runoff is contained. Contain all runoff.

**Hazards from combustion products:** There is a risk of an explosion from this product if commercial quantities are involved in a fire. On heating will emit toxic fumes. Firefighters to wear self-contained breathing apparatus and suitable protective clothing if risk to of exposure to vapour or smoke.

**Precautions for fire-fighters and special protective equipment:** Isolate fire area. Evacuate downwind residents. Wear full protective clothing and self contained breathing apparatus. Do not breathe smoke or vapours generated.



## **Section 6 - Accidental Release Measures**

### **Emergency procedures / Material and methods for containment and cleanup procedures:**

Extinguish all sources of ignition. Wear protective equipment to prevent skin/eye contamination. In the case of spillage, contain and absorb spilled material with absorbent material such as sand, clay, cat litter or material such as vermiculite and dispose of waste as indicated in section 13 or according to the Australian Standard 2507 - Storage and Handling of Pesticides. Wear prescribed protective clothing and equipment. Keep out animals and unprotected persons.

## **Section 7 - Handling and Storage**

**Precautions for Safe Handling:** No smoking, eating or drinking should be allowed where material is used or stored. Keep out of reach of children. Do not store for prolonged periods in direct sunlight. When opening the container, preparing the spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves and face shield or goggles.

**Conditions for Safe Storage:** Not classified as a Dangerous Good. This product is a Schedule 6 Poison (S6) and must be stored, transported and sold in accordance with the relevant Health Department regulations. This product is classified as a C1 (Combustible Liquid) for the purpose of storage and handling, in accordance with the requirements of AS 1940. Refer to state regulations for storage and transport requirements.

Store in the closed, original container in a well ventilated area away from children, animals, food, feedstuffs, seed and fertilisers. Do not store for prolonged periods in direct sunlight.

## **Section 8 - Exposure Controls and Personal Protection**

### **Exposure Guidelines:**

Exposure guidelines have been established for this product by safe Work Australia.

<b>Atmospheric Contaminant</b>	<b>Exposure Standard (TWA)</b>	<b>STEL (mg/m<sup>3</sup>)</b>
Chlorpyrifos	0.2 mg/m <sup>3</sup>	Not set
TWA = Time-weight Average		

### **Biological Limit Values:**

No biological limit allocated.

### **Engineering controls:**

Use in ventilated areas adequate to keep exposure below the TWA. Keep containers closed when not



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in use.

## **Personal Protective equipment (PPE):**

**General:** When opening the container, preparing the spray wear a PVC or rubber apron, cotton overalls buttoned to the neck and wrist and a washable hat and elbow-length PVC gloves and face shield. Wash thoroughly before smoking, eating or using toilet facilities. Wash hands after use.

**Respiratory Protection:** Generally not required. Use of a respirator may be required in certain circumstances to protect from inhalation of spray mist.

## **Section 9 - Physical and Chemical Properties:**

**Appearance:** Tan – yellow coloured liquid.

**Odour:** Mercaptan odour (characteristic organophosphorus type odour).

**Boiling point:** No data.

**Freezing point:** No data.

**Specific Gravity:** No data.

**Solubility in Water:** Emulsifies in water.

**pH:** No data available.

**Flammability:** Combustible.

**Corrosive hazard:** Not corrosive.

**Flashpoint (°C):** > 62°C.

**Poisons Schedule:** S6.

## **Section 10 - Stability and Reactivity**

**Chemical Stability:** Product is considered stable in ambient conditions for a period of at least 2 years after manufacture.

**Conditions to avoid:** Do not store for prolonged periods in direct sunlight. Store away from sources of ignition.

**Incompatible materials:** Strong oxidising agents.

**Hazardous decomposition products:** When involved in a fire will emit toxic and noxious fumes.

**Hazardous reactions:** No particular reactions to avoid.

## **Section 11 - Toxicological Information**

No specific data is available for this product as no toxicity tests have been conducted on this product.



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Information presented is our best judgement based on similar products and/or individual components. As with all products for which limited data is available, caution must be exercised through the use of protective equipment and handling procedures to minimise exposure.

Excessive exposure may produce organophosphate type cholinesterase inhibition. Signs and symptoms of excessive exposure to chlorpyrifos may be headache, dizziness, in-coordination, muscle twitching, tremors, nausea, abdominal cramps, diarrhea, sweating, pinpoint pupils, blurred vision, salivation, tearing, tightness in chest, excessive urination, convulsions. For chlorpyrifos, in animals, effects have been reported on the following organs: adrenal gland. Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use of this product.

### **Potential Health Effects:**

#### **ACUTE EFFECTS**

Swallowed: Harmful if swallowed. Acute oral LD<sub>50</sub> for similar products range from 230 to 310 mg/kg.

Eye: This product may cause eye irritation. Symptoms may include stinging and reddening of eyes and watering. If exposure is brief, symptoms should disappear once exposure has ceased.

Skin: May cause mild irritation of the skin, but unlikely to be sensitising. A single prolonged exposure may result in material being absorbed in large amounts. Repeated minor exposure may have a cumulative poisoning effect.

Inhaled: Probably an inhalation irritant.

#### **Long Term Exposure:**

**Chronic toxicity:** 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 depression, irritability, confusion, headache, speech difficulties, delayed reaction times, nightmares, sleepwalking, and drowsiness or insomnia. Human volunteers who ingested 0.1 mg/kg/day of chlorpyrifos for 4 weeks showed significant plasma cholinesterase inhibition.

**Reproductive effects:** Current evidence indicates that chlorpyrifos does not adversely affect reproduction. No effects on reproduction occurred in a three-generation study with rats fed dietary doses as high as 1 mg/kg/day.

**Teratogenic effects:** Available evidence suggests that chlorpyrifos is not teratogenic. No teratogenic effects in offspring were found when pregnant rats were fed doses as high as 15 mg/kg/day for 10 days.



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**Mutagenic effects:** There is no evidence that chlorpyrifos is mutagenic.

**Carcinogenic effects:** There is no evidence that chlorpyrifos is carcinogenic.

**Organ toxicity:** Chlorpyrifos primarily affects the nervous system through inhibition of cholinesterase, an enzyme required for proper nerve functioning.

**Fate in humans and animals:** 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 with a half-life in the blood of approximately 1 day. Chlorpyrifos is eliminated primarily through the kidneys. Chlorpyrifos does not have a significant bioaccumulation potential. Following intake, a portion is stored in fat tissues but it is eliminated in humans, with a half-life of about 62 hours.

### **Section 12 - Ecological Information**

**Environmental Toxicology:** Chlorpyrifos is moderately to very highly toxic to birds. Acute oral LD<sub>50</sub> = 8.41 mg/kg (pheasants), 112 mg/kg (mallard ducks), 21.0 mg/kg (house sparrows), and 32 mg/kg (chickens). At 125 ppm, mallards laid significantly fewer eggs. There was no evidence of other changes in hens fed dietary levels of 50 ppm of chlorpyrifos. Chlorpyrifos is very highly toxic to freshwater fish, aquatic invertebrates and estuarine and marine organisms. Cholinesterase inhibition was observed in acute toxicity tests of fish exposed to very low concentrations of this insecticide. The 96-hour LC<sub>50</sub> = 0.009 mg/L (mature rainbow trout), 0.098 mg/L (lake trout), 0.806 mg/L (goldfish), 0.01 mg/L (bluegill), and 0.331 mg/L (fathead minnow). When fathead minnows were exposed to a similar product for a 200-day period during which they reproduced, the first generation of offspring had decreased survival and growth, as well as a significant number of deformities. This occurred at approximately 0.002 mg/L exposure for a 30-day period. Chlorpyrifos accumulates in the tissues of aquatic organisms. Studies involving continuous exposure of fish during the embryonic through fry stages have shown bioconcentration values of 58 to 5100. Due to its high acute toxicity and its persistence in sediments, chlorpyrifos may represent a hazard to sea bottom dwellers. Smaller organisms appear to be more sensitive than larger ones. Aquatic and general agricultural uses of chlorpyrifos pose a serious hazard to wildlife and honeybees.

**Environmental Fate:** Based largely or completely on information for chlorpyrifos. The photolysis half-life in water is 3-4 weeks. In the atmospheric environment, material is estimated to have a tropospheric half-life of 1.4 hours. Degradation is expected in the soil environment within days to weeks. Under aerobic soil conditions the half-life is generally 30-60 days. Expected to be relatively immobile in the soil ( $K_{oc} > 5000$ )



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## **Section 13 - Disposal Considerations**

**Spills and Disposal:** Persons involved in cleanup require adequate skin protection - see section 8. In case of spillage, contain and absorb spilled material with absorbent material such as clay, sand or cat litter and dispose of waste as indicated below or in accordance to the Australian Standard 2507- Storage and Handling of Pesticides. Keep out animals and unprotected persons. Keep material out of streams and sewers. Vacuum, shovel or pump waste into an approved drum. To decontaminate spill area, tools and equipment, wash with detergent and water and add the solution to the drums of wastes already collected and label contents. Dispose of drummed wastes, including decontamination solution in accordance with the requirements of Local or State Waste Management Authorities.

**Disposal of empty containers:** Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on-site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush, or puncture and bury empty containers in a local authority landfill. Empty containers and product should not be burnt.

## **Section 14 - Transport Information**

**Road & Rail Transport:** This product is classified as a Dangerous Goods under the Australian Code for the Transport of Dangerous Goods by Road and Rail. UN 3018 PESTICIDES, ORGANOPHOSPHORUS, LIQUID, TOXIC. Packaging Group III. Hazchem 2X. Hazard Identification number 60. This product is a Combustible Liquid (C1).

This product is a Schedule 6 Poison (S6) and must be stored, transported and sold in accordance with the relevant Health Department regulations.

## **Section 15 - Regulatory Information**

Under the Standard for Uniform Scheduling of Medicines and Poisons (SUSMP), this product is a schedule 6 poison.

This product is registered under the Agricultural and Veterinary Chemicals Code Act 1994. Product Registration No. 65160.

This product is classified as a Hazardous Substance under the criteria of Safe Work Australia. Xn: Harmful, Xi: Irritant.

This product is classified as a Dangerous Good according to the ADG Code (7<sup>th</sup> Ed).



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## **Section 16 - Other Information**

**This MSDS contains only safety-related information. For other data see product literature.**

THIS MSDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS MSDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS

OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.

Please read all labels carefully before using product.

This MSDS is prepared in accord with the ASCC document "National Code of Practice for the Preparation of Material Safety Data Sheets" 2nd Edition [NOHSC:2001(2003)]