

MATERIAL SAFETY DATA SHEET

This product is harmful if swallowed and toxic in skin contact. It is a designated Hazardous Substance according to the criteria of Worksafe Australia

This revision issued: December 2004

1. IDENTIFICATION OF CHEMICAL PRODUCT AND COMPANY

Product name: **OPTEM DUO[®] TERMITICIDE AND INSECTICIDE**

Formulation type: Emulsifiable concentrate.

Poison Schedule: S6

Recommended use: termiticide and insecticide for use as described on the product label.

Supplier: PCT International Pty Ltd

Address: Unit 1/ 74 Murdoch Cct, ACACIA RIDGE QLD 4110

Telephone: (07) 3711 7022

Fax: (07) 3711 7055

Website: www.pct.au.com

Contact: David Pearson

Emergency telephone No: 1800 630 877

2. COMPOSITION of/ INFORMATION on/ INGREDIENTS

Ingredients	CAS No	Proportion
Chlorpyrifos	2921-88-2	450g/l
Hydrocarbon solvent	64742-94-5	<600g/l
General surfactants	-	<100g/l

3. HAZARDS IDENTIFICATION

Hazard Designation: Hazardous according to the criteria of Worksafe Australia.

Risk Phrases:

R20 Harmful by inhalation	R22 Harmful if swallowed
R36 Irritating to eyes	R65 Harmful- May cause lung damage if swallowed.

Safety Phrases:

S20/21 When using, do not eat, drink or smoke.
S24/25 Avoid contact with skin and eyes.

SUSDP Classification: S6

ADG Classification: 6.1

UN Number: 3018

4. FIRST AID MEASURES

General Information: Symptoms of excessive exposure to the active ingredient may include headaches, dizziness, incoordination, muscle twitching, tremors, nausea, abdominal cramps, diarrhoea, sweating, constricted pupils, blurred vision, salivation and tears, tightness of the chest, and convulsions. Show this MSDS to a medical practitioner when seeking medical assistance.

Inhalation: Remove victim to fresh air. Give one Atropine tablet every 5 minutes until dryness of the mouth occurs. Seek medical advice.

Skin Contact: Remove contaminated clothing. Wash affected areas with plenty of soap and water. Give one atropine tablet every 5 minutes until dryness of the mouth occurs. Seek medical assistance.

Eye Contact: Immediately wash the eye with water for at least 15 minutes, and seek medical attention.

Ingestion: If swallowed, give one atropine tablet every 5 minutes until dryness of the mouth occurs.

Advice to Doctor: Chlorpyrifos is a cholinesterase inhibitor. Atropine by injection or atrovent/ ipratropium by airway puff are the preferred antidotes. Oximes such as 2 PAM/ protopam may be therapeutic if used early, but only if used in conjunction with atropine. Optem Duo contains petroleum-like solvents, and the benefits of inducing vomiting must be weighed against the possibility of chemical pneumonitis. If lavage is performed, endotracheal or oesophagoscopy control is advisable.

5. FIRE FIGHTING MEASURES

Fire and Explosion Hazards: Will support combustion- a volatile combustible solvent is in the formulation. A combination of vapours of the solvents and air may form an explosive mixture. Rapid decomposition of the active ingredient occurs at temperatures greater than 160°C, resulting in the formation of hazardous by-products. Fire decomposition by-products may form toxic and corrosive mixtures in confined spaces. Drum explosion is likely if confined at temperatures greater than 160°C. Intact containers exposed to excessive heat should be cooled with water to reduce drum internal pressure.

Fire Extinguisher type: Carbon Dioxide, dry chemical, foam or water fog. Water fog or fine spray is preferred for large fires.

Fire Fighting Procedures & Precautions: Full protective gear, including self-contained breathing apparatus to AS1716, must be worn. Ensure that no spillage enters drains or watercourses.

Hazardous Decomposition

Products: May give off oxides of phosphorous or chlorine products.

Flash Point: 67°C

Flammability Class: 3

6. ACCIDENTAL RELEASE/ SPILLS MEASURES

Dealing with spills has the potential to increase the risk of personal exposure- during such operations, ensure that protective clothing is worn as detailed below. Avoid contact with spilled material or contaminated surfaces. Keep people and animals away. Place any leaking containers into salvage drums. Prevent spillage from entering drains, sewers or watercourses. If contamination thereof is unavoidable, warn the local water authority. Spills should be contained and absorbed with soil, sand, sawdust, clay, cat litter or other similar material, and once absorption is complete, this material then be placed in sealable, labeled, drums for safe disposal in an approved landfill, and in accordance with the requirements of local or State Waste Management Authorities. Alternatively, bury under at least 500^{mm} of soil in an area away from crops, pastures, homes or water sources. To decontaminate spill area, tools and equipment, wash with a suitable

solution, e.g. organic solvent, detergent, bleach (sodium hypochlorite) or caustic, and add this material to the drums of waste already collected. Label all contents. Do not burn empty containers or product.

7. HANDLING AND STORAGE

Handling:	Keep out of reach of children. Wear long sleeved overalls and PVC gloves while handling. After handling and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. Avoid contact with the eyes, skin and clothing, and avoid inhalation of the product.
Storage:	Store in tightly closed, original containers in a dry, cool, well-ventilated area out of direct sunlight. Store in a locked room or place away from children, animals, food, feedstuffs, seed and fertilizers.

8. EXPOSURE CONTROLS & PERSONAL PROTECTION

Exposure Limits:	TWA for chlorpyrifos is 0.2 mg/m ³ .
Ventilation:	Use product in well ventilated areas only. If necessary, use of local exhaust ventilation may be required to reduce the level of airborne mist concentration.
Personal Protective Equipment:	When opening the container and preparing a treatment mix, and while using the prepared mix, wear cotton overalls buttoned to the neck and wrists, washable hat, and elbow-length PVC gloves to AS2161. Wear an appropriate face shield or goggles. Wash all these items after each day's use.
Respirator:	Use a respirator with chemical cartridge to AS1715 when working in poorly ventilated areas or where there is a potential for contact with spray mist, drift, vapours or splashing.

9. PHYSICAL & CHEMICAL PROPERTIES

Physical Description:	Clear, pale yellow liquid.
Odour:	Mercaptan odour.
Specific Gravity:	about 1.072 @ 20°C.
Water Solubility:	Disperses as an emulsion.
Vapour Pressure:	2.7mPa at 25°C.
Boiling Point:	about 183°C
Flash Point:	>65°C.

10. STABILITY & REACTIVITY

Reactivity:	Stable under normal conditions of use.
Conditions to Avoid:	Extreme heat and fire.
Incompatibilities:	Strong oxidizing agents.
Fire Decomposition:	Carbon Dioxide, carbon monoxide (if incomplete combustion) and smoke. Also nitrogen and oxides of nitrogen, sulfur and phosphorous.
Polymerisation:	This product is unlikely to undergo polymerization.

11. TOXICOLOGICAL INFORMATION

Chronic Toxicity:	Possible chronic health effects from exposure to Optem Duo are based on studies using the active ingredient. Chlorpyrifos has been shown not to cause cancer, genetic damage or birth defects. It is rapidly metabolized and excreted, and consequently does not accumulate in the body. Repeated minor exposures may have a cumulative poisoning effect.
Reproductive Effects:	Chlorpyrifos does not interfere with reproduction or cause birth defects.
Inhalation:	The product is poisonous if inhaled.

Skin contact:	The product is poisonous if absorbed thru the skin.
Eye contact:	May be harmful to the eyes.
Ingestion:	The product is poisonous if swallowed.
Carcinogenic status:	The product is not classified as carcinogenic according to Worksafe Australia.
Animal Toxicity Data:	No data available for the product.

12. ECOLOGICAL INFORMATION

Effects on Birds:	Highly toxic to birds.
Effects on Aquatic Life:	Chlorpyrifos is highly toxic to fish, aquatic invertebrates and estuarine and marine organisms.

Effects on Other Animals (non-target species): Chlorpyrifos is highly toxic to honeybees and should not be used when bees are actively collecting pollen and nectar. It is moderately toxic to pets and livestock, and has low toxicity to earthworms.

Environmental Persistence

& Degradation: Chlorpyrifos adheres strongly to soil particles and organic material, and it is not readily soluble in water. As a result, it is not mobile in soils and is unlikely to leach out or to contaminate groundwater. Adsorbed Chlorpyrifos is subject to degradation by UV light, chemical hydrolysis and by soil microbes. It has a half-life of 6 to 280 days depending on sunlight, soil type and climatic conditions.

13. DISPOSAL CONSIDERATIONS

Dispose of empty, used containers by triple rinsing, or preferably pressure rinsing. Add the rinsings to the spray tank or dispose of the rinsings in a disposal pit away from desirable plants and their roots and from watercourses. DO NOT dispose of undiluted chemicals on site. If recycling, replace cap and return cleaned containers to a recycler or designated collection point. If not recycling, break, crush or puncture empty containers and bury in a local authority landfill. If no landfill available, bury the containers at least 500^{mm} deep 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.

14. TRANSPORT INFORMATION

UN Number:	3018
Proper Shipping Name:	Optem Duo
Class and Subsidiary Risk:	6
Packing Group:	III
Hazchem Code:	3WE

15. REGULATORY INFORMATION

APVMA Approval No:	53013/0302
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16. OTHER INFORMATION

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

The above information is correct and accurate to the best of our knowledge. However, no warranty, expressed or implied, is made as to its accuracy or completeness of data herein. Further research and investigation may be required for your particular use of this product.