

Snare Termiticide*

SECTION 1: Identification of the material and supplier

Product: Snare Termiticide
Product Code: IWD 4192
Uses: For pre-construction control of subterranean termites as specified on the label
Company: Dow AgroSciences Australia Ltd, ABN 24 003 771 659
Address: Level 5, 20 Rodborough Road, Frenchs Forest NSW 2086
Website: www.dowagrosciences.com.au
Customer Service Toll Free Number: 1800 700 096 (Mon-Fri, 8am–5pm EST)
Emergency Telephone Number: 1800 033 882 (24 hours) (EMERGENCIES ONLY)
Date of Issue: 22 October 2003

SECTION 2: Hazards Identification**Hazardous substance:**

Risk Phrases: R20 – Harmful by inhalation, R22 – Harmful if swallowed, R36 – Irritating to eyes, R65 – Harmful: May cause lung damage if swallowed.

Dangerous Good

Shipping Name: ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC
UN No.: 3018
Hazchem Code: 2X
Dangerous Goods Class: 6.1 Toxic Substances
Sub Risk Class: None allocated
Packaging Group: III.
Scheduled Posion: S6

SECTION 3: Composition/information on ingredients

Chemical Entity	CAS No.	Proportion
Chlorpyrifos	002921-88-2	42.1%
Liquid hydrocarbon	064742-94-5	28.5%
Other ingredients (not known to be hazardous)		29.4%

SECTION 4: First Aid Measures**Symptoms of exposure:**

Eye: Snare Termiticide may cause moderate eye irritation and/or corneal injury, vapours may irritate the eyes.

Skin: Prolonged exposure may cause moderate skin irritation. If swallowed in large amounts serious injury may occur even death.

Ingestion: If aspirated (liquid enters the lung) may cause lung damage or even death due to chemical pneumonia.

Inhalation: Symptoms typical of organophosphate-type cholinesterase inhibition may occur. Excessive exposure to the liquid hydrocarbon vapour may cause respiratory irritation and central nervous system depression. Signs and symptoms of central nervous system depression in order of increasing exposure are headache, dizziness, drowsiness, and incoordination.

Systemic (other target organ effects): Excessive exposure may cause organophosphate type cholinesterase inhibition. Signs and symptoms of excessive exposure to chlorpyrifos may include headache, dizziness, incoordination, muscle twitching, tremors, nausea, abdominal cramps, diarrhoea, sweating, pinpoint pupils, blurred vision, salivation, tearing, excessive urination, tightness in the chest and convulsions. The liquid hydrocarbon has been reported to cause liver, kidney, kidney, and blood effects at high exposure levels.

FIRST AID

General: Consult the Poisons Information Centre (Ph: 13 11 26) or a Doctor in every case of suspected chemical poisoning. Never give fluids or induce vomiting if a patient is unconscious or convulsing regardless of cause of injury. If breathing difficulties occur seek medical attention immediately.

Atropine tablets 0.6mg should be available in the area where this product is used, or in a nearby unlocked medicine cabinet.

Swallowed: If swallowed, give one atropine tablet every 5 minutes until dryness of the mouth occurs. Get to a doctor or hospital quickly.

Skin: If poisoned by skin absorption or through lungs, remove any contaminated clothing and wash skin thoroughly and give one atropine tablet every 5 minutes until dryness of the mouth occurs. If safety shower is available, use it promptly. Get to a doctor or hospital quickly.

Eyes: If in eyes, hold eyes open and flood with water for at least 15 minutes and see a doctor. Ensure irrigation under eyelids by occasionally lifting them. Do not try to remove contact lenses unless trained.

Inhalation: If affected, remove from contaminated area to fresh air. If breathing is difficult give oxygen and if necessary artificial respiration. Get to a doctor or hospital quickly.

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. Snare contains liquid hydrocarbon solvents. If lavage is performed endotracheal or oesophagosopic control is advisable

Workplace facilities (manufacturing and packaging): Provide emergency showers and eyewash facilities.

SECTION 5: Fire Fighting Measures

Flammable properties:	C1 Combustible liquid. (Flashpoint 66 °C by PMCC)
Flammability limits:	Upper Value: 6.0%, Lower Value: 0.9% (solvent)
Stability:	This product is unlikely to spontaneously decompose.
Materials to avoid:	Strong oxidising agents.
Polymerisation:	Not known to occur.
Hazardous Decomposition Products:	During a fire smoke may contain the original material in addition to unidentified toxic and/or irritating compounds. Hazardous combustion products may include and are not limited to sulphur oxides, phosphorous compounds, nitrogen oxides, hydrogen chloride, carbon monoxide and/or carbon dioxide
Fire & Explosion Hazards:	Combustible liquid. There is a moderate risk of an explosion from this product if it is involved in a fire. Fire decomposition products from this product may form toxic and corrosive mixtures in confined spaces.
Special Fire Fighting procedures:	Evacuate personal to a safe area. Stay upwind. Keep out of low areas where gasses (fumes) can accumulate. Eliminate ignition sources. Burning liquids may be extinguished by dilution with water. Do not use direct water stream to prevent spread of fire. Use water spray to

	cool fire exposed containers. Do not allow water from fire-fighting to enter water supplies, or drainage systems
Protective equipment for fire-fighters:	Wear positive-pressure self-contained breathing apparatus and full protective clothing (includes fire fighting helmet, coat, pants, boots and gloves. If protective equipment is not available or not used, fight fire from a protected location or safe distance.
Extinguishing Media:	Carbon dioxide, dry chemical, foam, water fog or fine spray. Alcohol resistant foams (ATC type) are preferred if available because uncontrolled water can spread possible contamination. General-purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively.
Media to be avoided:	Do not use direct water stream.
Hazchem:	2X

SECTION 6: Accidental Release Measures

Wear appropriate protective equipment (see Section 8). Clear area of all unprotected personnel. Prevent entry of chemical or used/damaged containers into sewers, drains, streams or waterways. If necessary, inform the police and the relevant Environmental Agency.

Small Spill:	For clean-up of a spill from a single shipping pack soak up with sand or other non-combustible absorbent material and place into containers for disposal. If applicable wash area with a solution of bleach (sodium hypochlorite) prepared according to the bleach label instructions.
Large Spill:	Eliminate all sources of sparks or open flame. Wear protective clothing. Stop further release or spread of spilled material. For clean up of multiple shipping packs, place leaking container into a salvage drum and pump or scoop up liquid into the salvage drum. Absorb remaining liquid as for small spills. Place clean-up material and damaged containers into salvage drums for disposal. If applicable, wash the area with a solution of bleach (sodium hypochlorite) prepared according to the bleach label instructions. On soils, skim off the upper contaminated layer and collect it for disposal. If further information is required, telephone 000 and the emergency contact number or Dow AgroSciences Australia.

SECTION 7: Handling and Storage

Handling

Keep out of reach of children and animals. Do not swallow. Do not get in eyes, on skin or on clothing. Avoid breathing spray mist or vapours. After work, remove protective equipment, and wash hands before eating, smoking, drinking or using the toilet. Clean up spilled material immediately, and wash clothes, equipment and work area after use.

Storage

Keep out of reach of children and animals. Store in tightly closed original containers in a cool, well-ventilated area set aside for hazardous materials and out of direct sunlight. Do not store with food, feedstuffs, fertilisers or seeds.

SECTION 8: Exposure Control/Personal Protection

These precautions are suggested for conditions where a potential for exposure exists. Emergency conditions may require additional precautions

A time weighted average (TWA) has been established for chlorpyrifos of 0.2mg/m³. The corresponding STEL level is "not set". The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The ADI (Acceptable Daily Intake) for chlorpyrifos is set at 0.003mg/kg/day. The corresponding NOEL (No-observable-effect-level) is set at 0.03mg/kg/day. Values taken from Australian ADI List, January, 2001.

The supplier of the liquid hydrocarbon recommends an 8-hour time weighted average (TWA) exposure of 500 mg/m³ total vapour/aerosol (approx. 100 ppm vapour) or 5 mg/m³ stable aerosols.

ENGINEERING CONTROLS

In industrial situations, concentrated values below the TWA value should be maintained. Values may be reduced by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. If airborne concentrations of mists, dusts or vapours are believed to be high, it is advisable to modify the process or environment to reduce the problem.

Personal Protection for manufacturing and packaging.

Respiratory protection

Atmospheric levels should be maintained below the exposure guidelines. When respiratory protection is required use an approved air-purifying or positive –pressure supplied-air respirator depending of the potential airborne concentration. For emergency and other conditions where the exposure guideline may be greatly exceeded, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply.

Skin protection

Use protective clothing impervious to this material. Selection of specific items such as face shield, gloves, boots, apron, or full body suit will depend on the operation. Remove contaminated clothing immediately, wash skin area with sap and water, and launder clothing before reuse. Contaminated leather items, such as shoes, belts and watchbands, should be removed and destroyed.

Eye/face protection

Use chemical goggles. If vapour exposure causes eyes discomfort, use an approved full-face respirator.
Personal Protection for applicators and all other handlers

Personal Protection for application and all other handlers.

General Pest Control:

Product is poisonous if absorbed by skin contact, inhaled or swallowed. Repeated minor exposure may have a cumulative poisoning effect. Obtain an emergency supply of atropine tablets 0.6 mg. Will irritate the eyes and skin. Avoid contact with eyes and skin. Do not inhale vapour or spray mist. When opening the container, preparing the spray, or using the prepared spray, wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves, face shield or goggles. If product on skin, immediately wash area with soap and water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use wash gloves, face shield or goggles and contaminated clothing.

For use as a Termiticide:

Product is poisonous if absorbed by skin contact, inhaled or swallowed. Repeated exposure may cause allergic disorders. Repeated minor exposure may have a cumulative poisoning effect. Obtain an emergency supply of atropine tablets 0.6 mg. Will irritate the eyes and skin. Avoid contact with eyes and skin. Do not inhale vapour or spray mist. When opening the container, preparing the spray and using the prepared spray, wear chemical resistant clothing buttoned to the neck and wrist and washable hat, elbow-length PVC gloves and goggles, chemical resistant footwear and half face piece respirator with combined dust and gas cartridge. If clothing becomes contaminated with product or wet with spray, remove clothing immediately. If product on skin, immediately wash area with soap and water. If product in eyes, wash it out immediately with water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use wash gloves, goggles, respirator and if rubber wash with detergent and warm water, and contaminated clothing.

SECTION 9: Physical and Chemical Properties

Appearance:	Clear, yellow liquid
Odour	mercaptans
pH	Not determined
Vapour Pressure:	26 mm Hg @ 38 °C (solvent), 1.87 x10 ⁻⁵ mm Hg @ 25 °C (chlorpyrifos)
Vapour density	Not determined
Boiling point/range	Not determined
Freezing/melting point	Not determined
Solubility in water:	Emulsifiable
Specific gravity:	1.104 g/mL @ 20 °C

Flammability:
Partition coefficient - Octanol/water (P_{ow})
Corrosiveness:

Flash point 66 °C (PMCC). C1 combustible
Log Pow = 4.7 – 5.3
Not corrosive

See also Section 5 and 10

SECTION 10: Stability and Reactivity

Chemical Stability:	Stable under normal storage conditions. Unstable at elevated temperatures
Conditions to avoid:	Avoid temperatures > 50 °C. Chlorpyrifos decomposes at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.
Materials to avoid:	Avoid contact with oxidizing materials and bases.
Hazardous Decomposition Products:	Hazardous decomposition products depend upon temperature, air supply and the presence of other materials. Hazardous decomposition products may include and are not limited to hydrogen chloride, organic sulphides and sulphur dioxide. Toxic gases are released during decomposition
Hazardous polymerisation:	Not known to occur

SECTION 11: Toxicological Information

Based on the individual components present in the formulation.

Health effects: See symptoms of Exposure in Section 4

Acute

Swallowed: The rat oral LD₅₀ is 230 – 310 mg/kg (moderately toxic)..

Eye: May cause temporary, moderate eye irritation and/or corneal injury. Vapours may irritate the eyes.

Skin: Prolonged exposure may cause skin irritation. Skin sensitisation is not known to occur. The dermal LD₅₀ (rabbit) is above 2000 mg/kg. Toxicity is low with short term contact and less than 3% of applied chlorpyrifos is absorbed.

Inhaled: The aerosol 4 hour LC₅₀ for a similar material is 2.7 mg/L. No adverse effects are anticipated from a single short-time exposure to vapour.

Mutagenicity: Based on a majority of negative data and some equivocal or marginally positive results, chlorpyrifos is considered to have minimal mutagenic potential. No information has been found for the other components.

Terratology (birth defects) Chlorpyrifos did not cause birth defects in laboratory animals. No information found for the other components.

Reproductive and Developmental toxicity: Chlorpyrifos did not interfere with fertility in reproduction studies in laboratory animals. Some evidence of toxicity to the offspring occurred, but only at a dose high enough to produce significant toxicity to the parent animals. No information was found for the other components.

Carcinogenicity: Chlorpyrifos did not cause cancer in laboratory animals. The MSDS for the liquid hydrocarbon reports that skin tumours have occurred in laboratory mouse skin painting tests, but these have usually been associated with a high level of skin irritation and further tests have determined that the irritation causes the tumours. Therefore, if the precautions are taken to minimise repeated or prolonged skin contact which could cause irritation there should be no carcinogenic hazard to humans. No information was found for the other components.

SECTION 12: Ecological Information

ECOTOXICITY

Based on information for chlorpyrifos.

Terrestrial vertebrates: chlorpyrifos is highly toxic to birds on a dietary basis (LC_{50} between 50 and 500 ppm). The liquid hydrocarbon is practically non-toxic to birds on an acute and dietary basis ($LD_{50} > 2000$ mg/kg and $LC_{50} > 5000$ ppm). No information was found for the other components.

Aquatic Organisms: Chlorpyrifos is very highly toxic to aquatic organisms on an acute basis ($LC_{50}/EC_{50} < 0.1$ mg/L in most sensitive species). The liquid hydrocarbon is moderately toxic (LC_{50}/EC_{50} between 1 and 10 mg/L in most sensitive species). No information was found for the other components.

Terrestrial non-vertebrates:

Chlorpyrifos is very highly toxic to terrestrial non-vertebrates (Honey bees topical LD_{50} is 0.114 μ g/bee). No information was found for the other components.

Soil organisms: Chlorpyrifos is practically non toxic to earthworms (14 day LC_{50} 210 – 313 mg/kg soil). No information was found for the other components.

ENVIRONMENTAL FATE

- **Breakdown of Chemical in Soil and Groundwater:** The breakdown of chlorpyrifos in soils is to largely dependant on soil concentration, soil type, and pH. It will degrade faster under alkaline conditions, and in soils with higher moisture content and higher temperature. At termiticide use rates, the half-life is approximately 380 days. Chlorpyrifos adsorbs strongly to soil particles and it is not readily soluble in water. It is therefore immobile in soils and unlikely to leach or to contaminate groundwater. No information was found for the other components.
- **Breakdown of Chemical in Surface Water:** Chlorpyrifos readily adsorbs to suspended sediment and bottom materials. Volatilization is probably the primary route of loss from water. The photolysis half-life in water is 3-4 weeks. Hydrolysis increases with temperature and in alkaline waters. Most of the dissolved chlorpyrifos (approximately 1 ppm) is hydrolysed in 12 hours to 6 days depending on pH. No information was found for the other components.
- **Breakdown of Chemical in the atmosphere:** Chlorpyrifos is estimated to have a tropospheric half-life of 1.4 hours.
- **Breakdown of Chemical in plants:** Chlorpyrifos remains on the plant surfaces for approximately 10 – 14 days. No information was found for the other components.

SECTION 13: Disposal Considerations

DISPOSAL

Contaminated material must be disposed of in accordance with all State and/or local authority requirements.

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. If no landfill is available, bury the containers below 500 mm 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. Rinsate/rinse water should be disposed of in accordance with appropriate State legislation and should preferably be sprayed on to an application site or added as up to 10% of the diluent the next time this product or another similar termiticide is used. Do not put down sewers, gutters or storm water drains. In some States wastes can only be buried at a licensed landfill.

If disposing of unwanted product, contact Dow AgroSciences or your local authority.

SECTION 14: Transport Information

UN No.:	3018
Shipping Name:	ORGANOPHOSPHOROUS PESTICIDE, LIQUID, TOXIC
Dangerous Goods Class:	6.1 Toxic substances
Sub Risk Class:	None allocated
Packaging Group:	III
Hazchem Code:	2X

SECTION 15: Regulatory Information

Snare Termiticide is a registered product under the Agvet Code Act 1994. APVMA Approval Number 52870

SECTION 16: Other Information

Date of preparation: 22 October 2003 – replaces February 2001.

Glossary

ADI - Acceptable daily intake, the level of intake of a chemical that can be ingested daily over an entire lifetime without appreciable risk to health. It is calculated by dividing the overall NOEL for animal studies by a safety factor.

K_{oc} - the organic carbon partition coefficient (mL soil water /g organic carbon).

LC₅₀ - Lethal Concentration 50%. A concentration of chemical in air or water that will kill 50% of the test organisms. inhaling or ingesting it.

LD₅₀ - Lethal Dose-50%. The dos of a chemical that will kill 50% of the test animals receiving it.

NOEL - No-observable-effect-level, the highest administered dose which does not cause any detectable (usually adverse) effect in the study. The overall NOEL for a chemical determined in the most sensitive species is used to estimate the ADI.

pH - Measure of how acidic or alkaline a material is using a 1 - 14 scale. pH 1 is strongly acidic and pH 14 strongly alkaline.

Polymerisation - a chemical reaction in which small molecules (monomers) combine to form much larger molecules (polymers). A hazardous polymerisation reaction is one that occurs at a fast rate and releases large amounts of energy.

P_{ow} - The octanol-water partition coefficient is the ratio of the concentration of a chemical in octanol and in water at equilibrium and at a specified temperature. Octanol is an organic solvent that is used as a surrogate for natural organic matter. This parameter is used in many environmental studies to help determine the fate of chemicals in the environment.

TWA - Time Weighted Average. The average concentration of a chemical in air over the total exposure time - usually an 8 hour work day.

References

AS/NZS 1715-1994 Selection Use and Maintenance of Respiratory Protective Devices.

ASNZS 1716 - 1994 Respiratory protective devices.

MSDS for Dursban* TC Termiticide concentrate (7/14/00)

MSDS for Aromatic 150 (2001)

EXTOXNET – chlorpyrifos (1993)

WHO Specifications and evaluations for Public health Pesticides (Chlorpyrifos) 2002

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition (2003)

This information in this Safety Data Sheet is based upon current knowledge and experience. It is subject to revision as additional knowledge and experience is gained.

FOR FURTHER PRODUCT INFORMATION CALL DOW AGROSCIENCES CUSTOMER SERVICE REPRESENTATIVES TOLL FREE 1800 700 096 DURING BUSINESS HOURS.

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 should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company. The 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.