

MATERIAL SAFETY DATA SHEET

Chaindrite Perforce 500 Residual Insecticide

Section 1: Identification of the Product and Company

Product name:	Chaindrite Perforce 500 Residual Insecticide
APVMA Approval Number:	63797
Product type:	Permethrin is a pyrethroid derived insecticide.
Use:	Agricultural insecticide for use as described on the product label.
Company name & Contact details	Australian Company Sherwood Chemicals Australasia Pty Ltd Address: Level 3, 1060 Hay Street, WEST PERTH 6005 AUSTRALIA Emergency Telephone number: All hours +61 421 667972
Other information:	All reasonable care has been taken to ensure the information and advice contained in this data sheet is accurate at the time of printing. However, Sherwood Chemicals accepts no liability for any loss or damages suffered as a consequence of reliance upon the information contained herein.
Emergency	In a Transport Emergency Dial 000 – Police or Fire Brigade
MSDS updated date: 6 th Jan 2010	Version Number: Perforce500V02

Section 2: Hazards Identification

Hazard classification:	HAZARDOUS according to WorkSafe Australia
Risk Phrases:	R20/22 Harmful by inhalation and if swallowed. R43 May cause sensitization by skin contact.
Safety Phrases:	S2 Keep out of reach of children. S23 Do not breathe vapour/spray. S24 Avoid contact with the skin. S44 If you feel unwell contact a doctor or Poisons Information Centre immediately (show the label where possible)
SUSDP Classification:	S6
ADG Classification:	Not classified as Dangerous Goods according to "Australian DG Code 6 for the Transport of Dangerous Goods by Road & Rail". Classified as Dangerous Goods according to "Australian DG Code 7 for the Transport of Dangerous Goods by Road & Rail". ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (CONTAINS PERMETHRIN) MARINE POLLUTANT
UN Number:	UN3082 Dangerous Goods Class 9 Packing Group III

MSDS – Chaidrite Perforce 500 Residual Insecticide

Emergency Overview

POTENTIAL HEALTH EFFECTS: This section includes possible adverse effects, which could occur if this material is not handled in the recommended manner.

EYE: Irritant to eye

SKIN: Mild skin irritant. Repeated or prolonged skin contact may lead to contact dermatitis.

INGESTION: Harmful if swallowed

INHALATION: Vapour may be an irritant to mucous membranes and respiratory tract.

SYSTEMIC (other target organ): Central Nervous system.

CANCER INFORMATION: No data available

TERATOLOGY (Birth defects): No data available

REPRODUCTIVE EFFECTS: No data available

NOTE: Workers exposed to hydrocarbon solvents in high concentrations, will typically show signs of central nervous system depression. Disorientation, euphoria, giddiness and confusion, progressing to unconsciousness, paralysis, convulsion and death from respiratory or cardiovascular arrest may be observed.

Section 3: Composition / Information on Ingredients

Chemical entity	CAS N°	Proportion	TWA (mg/m ³)	STEL (mg/m ³)
Permethrin	52645-53-1	500g/L	not set	not set
Aromatic hydrocarbons	64742-94-5	457g/L	not set	not set
Other non hazardous ingredients	Secret	To 100%	not set	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The ASCC TWA exposure value 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 STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak "is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

Section 4: First Aid Measures

General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this MSDS with you when you call.

Inhalation: Remove victim to fresh air. Seek medical advice if symptoms are experienced.

Skin Contact: Wash off skin immediately with soap and plenty of water. Remove all contaminated clothing and shoes. Seek medical advice if irritation persists. Launder contaminated clothing before re-use.

Eye Contact: Rinse immediately with plenty of water for at least 15 minutes, holding eye open and taking care to rinse under eyelids as well. If irritation persists seek medical attention.

Ingestion: Wash out mouth with water. Do not induce vomiting. Keep patient at rest and seek medical advice.

NOTE TO PHYSICIAN / FIRST AIDERS: Treat Symptomatically. Note that this product contains an aromatic hydrocarbon. Induction of vomiting may lead to inhalation of its vapors, which in turn may lead to lung damage. Therefore induction of vomiting is preferably performed under trained medical supervision.

MSDS – Chaindrite Perforce 500 Residual Insecticide

Section 5: Fire Fighting Measures

Fire and Explosion Hazards:	This product is classified as a C1 combustible product. There is no risk of an explosion from this product under normal circumstances if it is involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids. Vapours from this product are heavier than air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. They may also flash back considerable distances. Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.
Extinguishing Media:	Suitable extinguishing media are carbon dioxide, dry chemical, foam, water fog.
Fire Fighting:	If a significant quantity of this product is involved in a fire, call the fire brigade.
Flash point:	>60°C

Section 6: Accidental Release Measures

Accidental release: In the event of a major spill, prevent spillage from entering drains or water courses. Wear full protective clothing including eye/face protection. All skin areas should be covered. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. Suitable materials for protective clothing include rubber, PVC. Eye/face protective equipment should comprise as a minimum, protective goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. It should be fitted with a type G cartridge, suitable for agricultural chemicals. Otherwise, not normally necessary. Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. Refer to product label for specific instructions. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this MSDS and the label, instructions on the label prevail. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

Section 7: Handling and Storage

Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this MSDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

Storage: Note that this product is combustible and therefore, for Storage, meets the definition of Dangerous Goods in some states. If you store large quantities (tonnes) of such products, we suggest that you consult your state's Dangerous Goods authority in order to clarify your obligations regarding their storage.

Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. Some liquid preparations settle or separate on standing and may require stirring before use. Check packaging - there may be further storage instructions on the label.

MSDS – Chaidrite Perforce 500 Residual Insecticide

Section 8: Exposure Controls and Personal Protection

EXPOSURE GUIDELINES: Exposure values at the TWA (Time Weighted Average) means the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. A time weight average (TWA) concentration for an 8 hour day, and 5 day week has not been established by Worksafe Australia for any of the ingredients in this product. There is a blanket recommendation of 10mg/m³ for inspirable dusts or mists when limits have not otherwise been established.

ENGINEERING CONTROLS: In industrial situations, concentration 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 you believe air borne concentrations of mists, dusts or vapours are high, you are advised to modify the process or environment to reduce the problem.

Ventilation: This product should only be used where there is ventilation that is adequate to keep exposure below the TWA levels. If necessary, use a fan.

Eye Protection: face and eye protection should be worn. For help in selecting suitable equipment consult AS 1336 and AS/NZS 1337.

Skin Protection: Wear chemical resistant PVC or nitrile gloves. Wear cotton overalls and washable cotton hat. Wear boots. For help in selecting suitable gloves consult AS 2161 For help in selecting suitable clothing consult AS 2919. For help in selecting boots consult AS/NZS 2210

Respirator: Use in well ventilated area. For help in selecting suitable equipment consult AS/NZS 1715.

APPLICATIONS AND ALL OTHER HANDLERS: After handling this product always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

Section 9: Physical and Chemical Properties

Chemical:	Permethrin
Appearance:	Pale brown liquid, Mild aromatic odour.
Freezing/Melting Point:	No specific data. Liquid at normal temperatures.
Volatiles:	No data.
Vapour Pressure:	No data.
Vapour Density:	No data.
Specific Gravity:	1.05 at 20°C
Water Solubility:	Emulsifiable.
pH:	6 to 7.5 pH

Section 10: Chemical Stability and Reactivity Information

Reactivity:	This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.
Conditions to Avoid:	Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.
Incompatibilities:	Strong acids, strong bases, strong oxidising agents.

MSDS – Chaindrite Perforce 500 Residual Insecticide

Fire Decomposition: Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Water. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

Polymerisation: This product is unlikely to spontaneously polymerise.

Section 11: Toxicological Information

Toxicity: Acute toxicity: Permethrin is harmful to non-harmful via the oral route, with a reported LD₅₀ for technical Permethrin in rats of **430 to 4000 mg/kg**. Via the dermal route, it is not harmful, with a reported dermal LD₅₀ in rats of over 4000 mg/kg, and in rabbits of greater 2000 mg/kg. Permethrin caused mild irritation of both the intact and abraded skin of rabbits. It also caused conjunctivitis when it was applied to the eyes. The 4-hour inhalation LC₅₀ for rats was greater than 23.5 mg/L, indicating practically no inhalation toxicity. The toxicity of Permethrin is dependent on the ratio of the isomers present; the cis-isomer being more toxic.

Chronic toxicity: No adverse effects were observed in dogs fed Permethrin at doses of 5 mg/kg/day for 90 days. Rats fed 150 mg/kg/day for 6 months showed a slight increase in liver weights. Very low levels of Permethrin in the diet of chickens (0.1 ppm for 3 to 6 weeks after hatching) have been reported to suppress immune system activity.

Reproductive effects: The fertility of female rats was affected when they received very high oral doses of 250 mg/kg/day of Permethrin during the 6th to 15th day of pregnancy. It is not likely that reproductive effects will be seen in humans under normal circumstances.

Teratogenic effects: Permethrin is reported to show no teratogenic activity

Mutagenic effects: Permethrin is reported to show no mutagenic activity.

Carcinogenic effects: The evidence regarding the carcinogenicity of Permethrin is inconclusive

Organ toxicity: Permethrin is suspected of causing liver enlargement of the liver and nerve damage. Effects on the immune system have been noted in animal studies.

Fate in humans and animals: Permethrin is efficiently metabolized by mammalian livers. Breakdown products, or "metabolites," of Permethrin are quickly excreted and do not persist significantly in body tissues. When Permethrin is administered orally to rats, it is rapidly metabolized and almost completely eliminated from the body in a few days. Only 3 to 6% of the original dose was excreted unchanged in the faeces of experimental animals. Permethrin may persist in fatty tissues, with half-lives of 4 to 5 days in brain and body fat. Permethrin does not block, or inhibit, cholinesterase enzymes. There is no data to hand indicating any particular target organs. Permethrin is Classed by ASCC as a potential sensitiser by skin contact.

MSDS – Chindrite Perforce 500 Residual Insecticide

Section 12: Ecological Information

This product is harmful to aquatic organisms. This product is biodegradable. It will not accumulate in the soil or water or cause long term problems.

ENVIRONMENTAL DATA: This substance has low mobility in soil. It has a high potential for bioaccumulation but is rapidly eliminated from fish (about 80% in 14 days). There is evidence of degradation in soil and water. The half-life in soil is less than 38 Days.

AQUATIC TOXICITY: Very toxic to aquatic organisms

96 hr LC50 (rainbow trout): 2.5 ug/L

48 hr LC50 (rainbow trout): 5.4 ug/L.

45 hr LC50 (bluegill sunfish): 1.8 ug/L.

48 hr LC50 (Daphnia magna): 0.6 ug/L

TERRESTRIAL TOXICITY: Toxic to bees

24 hr Oral LD50 (bee): 0.098 ug/bee

24 hr Topical LD50 (bee): 0.029ug/bee.

Oral LD50 (chicken): > 3000 mg/kg.

Oral LD50 (Japanese quail): > 13,500 mg/kg.

Section 13: Disposal Considerations

DISPOSAL METHOD: Dispose of empty, used containers by;

(a) Triple rinsing with water. Add the rinsings to the tank mix or dispose of rinsate in a disposal pit away from desirable plants and roots, and watercourses. On-site disposal of undiluted product is unacceptable.

(b) Breaking, crushing or puncturing the containers to prevent reuse.

(c) Disposing of in a local authority, bury landfill site that does not burn its refuse. If there is no local authority landfill readily available in your area, bury the containers under at least 50cm of soil at a licensed/approved disposal site. DO NOT burn empty containers or product.

Section 14: Transport Information

DANGEROUS GOODS:

Not classified as Dangerous Goods according to “Australian DG Code 6 for the Transport of Dangerous Goods by Road & Rail”. Classified as Dangerous Goods according to “Australian DG Code 7 for the Transport of Dangerous Goods by Road & Rail”. ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (CONTAINS PERMETHRIN) MARINE POLLUTANT.

UN Number 3082 Dangerous Goods Class 9 Packing Group III

Marine Transportation

Classified as Dangerous Goods by the International Maritime Dangerous Goods Code (IMDG) Code) for transport by sea. UN Number 3082 Dangerous Goods Class 9 Packing Group III

Section 15: Regulatory Information

Poison Schedule

S6

Agricultural or veterinary chemicals legislation

This product is registered for use by the APVMA.

MSDS – Chaindrite Perforce 500 Residual Insecticide

Section 16: Other Information

Emergency Telephone number: All hours Tel: +61 421 667972

Sherwood Chemicals Australasia Pty Ltd

Address:

Level 3, 1060 Hay Street,

WEST PERTH 6005

AUSTRALIA

Tel: 08 9219 4683

Fax: 08 9219 4672

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END OF MSDS