

Material Safety Data Sheet

Cyperthor* Insecticide

Section 1 - IDENTIFICATION OF CHEMICAL PRODUCT AND COMPANY

This product is classified as Hazardous according to the criteria of NOHSC Australia.

Not a Dangerous Good according to the Australian Dangerous Goods (ADG) Code.

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Substance: Water-based solution of alpha-cypermethrin and other ingredients.

Trade Name: Cyperthor Insecticide

Product Use: Insecticide for use as described on the product label.

Creation Date: October, 2003

Revision Date: December, 2004

Section 2 - Composition/Information on Ingredients

Ingredients	CAS No	Conc, %	TWA (mg/m ³)	STEL (mg/m ³)
Alpha-cypermethrin	67375-30-8	5	not set	not set
Propylene glycol	57-55-6	<10	474	not set
Water	7732-18-5	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. TWA = Time Weight Average; STEL = Short Term Exposure Standard.

Section 3 - Hazards Identification

Statement of Hazardous Nature

This product is classified as: Hazardous according to the criteria of NOHSC Australia.

Not a Dangerous Good according to the Australian Dangerous Goods (ADG) Code.

Risk Phrases: R36. Irritating to eyes.

Safety Phrases: S25, S36/37. Avoid contact with eyes. Wear suitable protective clothing and gloves.

SUSDP Classification: S6

ADG Classification: None allocated. Not a Dangerous Good.

UN Number: None allocated

Emergency Overview

Physical Description & colour: White to light tan coloured liquid.

Odour: Mild odour.

Major Health Hazards: The onset of symptoms varies depending upon the route of absorption and quantity involved. In patients with occupational poisoning, skin symptoms usually develop within 4-6 hours after exposure, with systemic symptoms occurring as late as 48 hours after exposure. Paraesthesia of the facial skin can develop about 30 minutes after exposure. It does not usually last beyond 24 hours when exposure is terminated. Following ingestion, the initial symptoms involve the gastrointestinal tract, developing 10-60 minutes after exposure. Patients suffering from acute oral poisoning usually develop prominent digestive symptoms such as epigastric pain, nausea and vomiting. The prognosis is good if treated, with usually full recovery even in severely poisoned patients. (The hospitalisation period is usually longer than 4 weeks).

Potential Health Effects

See section 11 for Chronic exposure studies.

Inhalation:

Short term exposure: Available data indicates that this product is not harmful. However product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort.

Skin Contact:

Short term exposure: This product may cause skin numbness (see above for further symptoms). In addition product may be irritating, but is unlikely to cause anything more than mild transient discomfort.

Eye Contact:

Short term exposure: This product is an eye irritant. Symptoms may include stinging and reddening of eyes and watering. Other symptoms may also become evident. If exposure is brief, symptoms should disappear once exposure has ceased.

Ingestion:

Short term exposure: This product is unlikely to cause any irritation problems in the short or long term.

Carcinogen Status:

NOHSC: No significant ingredient is classified as carcinogenic by NOHSC.

NTP: No significant ingredient is classified as carcinogenic by NTP.

IARC: No significant ingredient is classified as carcinogenic by IARC.

Section 4 - First Aid Measures

General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned or irritated by this product. The number is 13 11 26 from anywhere in Australia and is available at all times. Have this MSDS with you when you call.

Inhalation: No first aid measures normally required. However, if inhalation has occurred, and irritation has developed, remove to fresh air and observe until recovered. If irritation becomes painful or persists seek medical advice.

Skin Contact: Irritation is unlikely but possible. However, if irritation does occur, flush with lukewarm, gently flowing water for 5 minutes or until product is removed. If in doubt obtain medical advice.

Eye Contact: Quickly and gently blot or brush away product. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water until the product is removed or until a few minutes after irritation has ceased, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical advice if irritation becomes painful or lasts more than a few minutes.

Ingestion: First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: There is no risk of an explosion from this product under normal circumstances if it is involved in a fire.

Only small quantities of decomposition products are expected from this products at temperatures normally achieved in a fire. This will only occur after heating to dryness.

Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

Extinguishing Media: Not Combustible. Use extinguishing media suited to burning materials.

Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade.

Flash point: Does not burn.

Upper Flammability Limit: Does not burn.

Lower Flammability Limit: Does not burn.

Autoignition temperature: Not applicable - does not burn.

Flammability Class: Does not burn.

Section 6 - Accidental Release Measures

Accidental release: In the event of a major spill, prevent spillage from entering drains or water courses. Evacuate the spill area and deny entry to unnecessary and unprotected personnel. Wear full protective clothing including face mask, face shield and gauntlets. All skin areas should be covered. See above under Personal Protection regarding Australian Standards relating to personal protective equipment. Suitable materials for protective clothing include rubber, PVC, butyl rubber. 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. 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: This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this class of poison. 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 "Materials to avoid" 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.

Section 8 - Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Industrial Clothing: **AS2919**, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

Exposure Limits	TWA (mg/m ³)	STEL (mg/m ³)
Propylene glycol	474	not set

The ADI for alpha-cypermethrin is set at 0.05mg/kg/day. The corresponding NOEL is set at 4.7mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, Dec 2002.

Ventilation: No special ventilation requirements are normally necessary for this product. However make sure that the work environment remains clean and that vapours and mists are minimised.

Eye Protection: Where potential for splashing or spray exists protective goggles or a face shield should be worn. Failure to protect your eyes may cause them harm.

Skin Protection: Prevent skin contact by wearing impervious gloves and clothes. Make sure all skin areas are covered. See below for suitable material types.

Protective Material Types: We suggest that protective clothing be made from the following materials: rubber, PVC, butyl rubber.

Respirator: Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above. Otherwise, not normally necessary.

Section 9 - Physical and Chemical Properties:

Physical Description & colour:	White to light tan coloured liquid.
Odour:	Very mild odour.
Boiling Point:	Approximately 100°C at 100kPa.
Freezing/Melting Point:	Approximately 0°C.
Volatiles:	Water component.
Vapour Pressure:	2.37 kPa at 20°C (water vapour pressure).
Vapour Density:	No data.
Specific Gravity:	1.02-1.03 at 20°C
Water Solubility:	Completely dispersible/suspendable in water.
pH:	No data. Typically 6-7
Volatility:	No data.
Evaporation Rate:	No data.
Coeff Oil/water distribution:	No data
Autoignition temp:	Not applicable - does not burn.

Section 10 - Stability and Reactivity

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 closed original container in dry, well-ventilated area out of direct sunlight.

Incompatibilities: No particular incompatibilities.

Fire Decomposition: Only small quantities of decomposition products are expected from this products at temperatures normally achieved in a fire. This will only occur after heating to dryness. Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. 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 undergo polymerisation processes.

Section 11 - Toxicological Information

Acute Toxicity: Cypermethrin is harmful to mammals when ingested. Large doses may cause incoordination, tremor, salivation, vomiting, diarrhoea, and irritability to sound and touch. The LD₅₀, for cypermethrin is about 3184 mg/kg in rats. The LD₅₀ for rabbits whose skin is exposed to cypermethrin is greater than 2,000 mg/kg. Cypermethrin does not sensitise the skin of guinea pigs. Although it does not cause inflammation or irritation on human skin, it can cause a tingling sensation which lasts about 12 hours.

Chronic Toxicity: No information available.

Teratogenic Effects: Cypermethrin has not demonstrated any teratogenic effects at the levels tested.

Mutagenic Effects: No information was found.

Carcinogenic Effects: No carcinogenic status has been established for cypermethrin.

Organ Toxicity: Pyrethroids are poisons that affect the electrical impulses in nerves, over-stimulating nerve cells causing tremors and eventually causing paralysis at high doses.

Fate in Humans and Animals: Cypermethrin is absorbed through intact skin when applied topically. It undergoes similar modes of breakdown within animal systems as other pyrethroid insecticides. In mammals, it is rapidly broken down and promptly excreted. Cypermethrin is less toxic to warm-blooded animals, such as mammals and birds, than to cold-blooded animals.

Section 12 - Ecological Information

Cypermethrin is extremely toxic to aquatic life, such as bluegill and lake trout while it is slightly toxic to bird species, such as mallards. Toxicity increases with higher water temperatures and acidity. Pyrethroids are fat soluble, but are easily degraded and thus do not accumulate in the body. Because cypermethrin has multiple sites in its structure that can be readily attacked in biological systems, it is unlikely that it will concentrate in the food chain.

ENVIRONMENTAL FATE

Cypermethrin, breaks down in plants to produce a variety of products.

Effects on Other Animals (Non-target species): Cypermethrin is toxic to bees.

ENVIRONMENTAL FATE

Breakdown of Chemical in Soil & Groundwater: Cypermethrin does not move in soils with large amounts of organic matter, clay and silt. It also has a low mobility in sandy soils that are low in organic matter. Cypermethrin is relatively insoluble in water, so there are no concerns about groundwater contamination through leaching. Cypermethrin is rapidly degraded in soil with a half-life of 2 - 4 weeks depending on the soil type and the amount of air in the soil.

Breakdown of Chemical in Vegetation: Cypermethrin is not absorbed by plant foliage, nor does it translocate in the plant.

Section 13 - Disposal Considerations

Disposal: Instructions concerning the disposal of this product and its containers are given on the product label. These should be carefully followed.

Section 14 - Transport Information

ADG Code: This product is not classified as a Dangerous Good. No special transport conditions are necessary unless required by other regulations.

Section 15 - Regulatory Information

AICS: All of the significant ingredients in this formulation are to be found in the public AICS Database.

Section 16 - Other Information

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

Acronyms:

ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail
AICS	Australian Inventory of Chemical Substances
CAS number	Chemical Abstracts Service Registry Number
Hazchem Number	Emergency action code of numbers and letters that provide information to emergency services especially fire-fighters
IARC	International Agency for Research on Cancer
NOHSC	National Occupational Health and Safety Commission
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
R-Phrase	Risk Phrase
SUSDP	Standard for the Uniform Scheduling of Drugs & Poisons
UN Number	United Nations Number

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 Ensystem 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.