

# Material Safety Data Sheet

## Permethor\* Insecticidal Dust

### Section 1 - IDENTIFICATION OF CHEMICAL PRODUCT AND COMPANY

This product is NOT 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:** Ready to use powder-based insecticide containing permethrin.

**Trade Name:** Permethor Insecticidal Dust.

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

**Creation Date:** October, 2004

**Revision Date:** October, 2004

### Section 2 - Composition/Information on Ingredients

Ingredients	CAS No	Conc, %	TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )
permethrin 25:75	52645-53-1	1	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.

### Section 3 - Hazards Identification

#### Statement of Hazardous Nature

This product is NOT classified as hazardous according to the criteria of NOHSC Australia.

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

**Safety Phrases:** Not Hazardous - No criteria found.

**SUSDP Classification:** None allocated

**ADG Classification:** None allocated. Not a Dangerous Good.

**UN Number:** None allocated

### Emergency Overview

**Physical Description & colour:** Off-white powder.

**Odour:** Negligible.

**Major Health Hazards:** Permethrin is harmful to non-harmful via the oral route, with a reported LD<sub>50</sub> for technical permethrin in rats of over 5000 mg/kg. Via the dermal route, it is not harmful, with a reported dermal LD<sub>50</sub> in rats of over 5000 mg/kg, and in rabbits of greater 2000 mg/kg.

### Potential Health Effects

See section 11 for Chronic exposure studies.

#### Inhalation:

**Short term exposure:** Available data indicates that this product is not harmful.

#### Skin Contact:

**Short term exposure:** Product is not harmful. May cause mild transient discomfort in sensitive persons.

#### Eye Contact:

**Short term exposure:** This product is unlikely to cause anything more than mild transient discomfort.

**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:** Permethrin 25:75 is Class 3 - unclassifiable as to carcinogenicity to humans.

## 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.

**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 more than about 30 minutes, seek medical advice.

**Skin Contact:** If significant skin contact occurs, wash gently and thoroughly with water (use non-abrasive soap if necessary) for 5 minutes or until product is removed..

**Eye Contact:** Gently blot or brush product away. Flush contaminated eye(s) with lukewarm, gently flowing water until the product is removed, while holding the eyelid(s) open. 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. 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.

**Flash point:** Does not burn.

**Upper Flammability Limit:** Does not burn.

**Lower Flammability Limit:** Does not burn.

**Autoignition temperature:** Does not burn.

**Flammability Class:** Does not burn.

## Section 6 - Accidental Release Measures

**Accidental release:** Minor spills do not normally need any special clean-up measures. In the event of a major spill, prevent spillage from entering drains or water courses. Wear protective clothing including face shield and gloves. See above under Personal Protection regarding Australian Standards relating to personal protective equipment. Stop leak and contain spill.

Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Consider vacuuming if appropriate. Recycle containers wherever possible after careful cleaning. After spills, wash area preventing run-off from entering drains. If a significant quantity of material enters drains, advise emergency services. This material may be suitable for approved landfill. Ensure legality of disposal by consulting regulations prior to disposal. Launder clothing before storage or re-use.

## Section 7 - Handling and Storage

**Handling:** Keep exposure 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.

**Storage:** Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. 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

Exposure limits have not been established by NOHSC for any of the significant ingredients in this product.

The ADI for permethrin 25:75 is set at 0.05mg/kg/day. The corresponding NOEL is set at 5mg/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.

**Eye Protection:** Eye protection such as protective glasses is recommended when product is being used.

**Skin Protection:** Prevent skin contact by wearing gloves and overalls.

**Respirator:** Not normally necessary.

### Section 9 - Physical and Chemical Properties:

<b>Physical Description &amp; colour:</b>	White powder.
<b>Odour:</b>	Negligible.
<b>Boiling Point:</b>	Not applicable.
<b>Freezing/Melting Point:</b>	Decomposes before melting.
<b>Volatiles:</b>	No specific data. Expected to be low at 100°C.
<b>Water Solubility:</b>	Negligible.
<b>Autoignition temp:</b>	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 the closed original container in a dry, ventilated area out of direct sunlight.

**Incompatibilities:** No particular incompatibilities.

**Fire Decomposition:** Only small quantities of decomposition products are expected at temperatures normally achieved in a fire. Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke.

**Polymerisation:** This product is unlikely to undergo polymerisation processes.

### Section 11 - Toxicological Information

**Toxicity: Acute toxicity:** Permethrin is harmful to non-harmful via the oral route, with a reported LD<sub>50</sub> for technical Permethrin in rats of greater than 5000 mg/kg. Via the dermal route, it is not harmful, with a reported dermal LD<sub>50</sub> in rats of over 5000 mg/kg, and in rabbits of greater 2000 mg/kg. Technical grade permethrin caused mild irritation of both the intact and abraded skin of rabbits. It also caused conjunctivitis when it was applied directly to the eyes. The 4-hour inhalation LC<sub>50</sub> 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.

**Teratogenic effects:** Permethrin is reported to show no teratogenic activity.

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

**Carcinogenic effects:** None reported.

**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.

## Section 12 - Ecological Information

**Effects on birds:** Permethrin is practically non-toxic to birds. The oral LD<sub>50</sub> for a permethrin formulation is greater than 9900 mg/kg in mallard ducks, greater than 13,500 mg/kg in pheasants, and greater than 15,500 mg/kg in Japanese quail.

**Effects on aquatic organisms:** Aquatic ecosystems are vulnerable to the impact of permethrin. The 48-hour LC<sub>50</sub> for rainbow trout is 0.0125 mg/L for 24 hours, and 0.0054 mg/L for 48 hours. The 48-hour LC<sub>50</sub> in bluegill sunfish and salmon is 0.0018 mg/L. The bioconcentration factor for permethrin in bluefish is 715 times the concentrations in water and is 703 in catfish. This indicates that the compound has a low to moderate potential to accumulate in these organisms.

**Effects on other organisms:** Permethrin is toxic to bees.

### Environmental Fate:

**Breakdown in soil and groundwater:** Permethrin is of low to moderate persistence in the soil environment, with reported half-lives of 30 to 38 days. Permethrin is readily broken down, or degraded, in most soils. Soil micro-organisms play a large role in the degradation of permethrin. Because permethrin binds very strongly to soil particles and is nearly insoluble in water, it is not expected to leach or to contaminate groundwater.

**Breakdown in water:** The results of one study near estuarine areas showed that permethrin had a half-life of less than 2.5 days. When exposed to sunlight, the half-life was 4.6 days. Permethrin degrades rapidly in water. There was a gradual loss of toxicity after it aged for 48 hours in sunlight at 0.05 mg/L in water.

**Breakdown in vegetation:** Permethrin is not phytotoxic, or poisonous, to most plants. No incompatibility has been observed with permethrin on cultivated plants.

## 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 a Dangerous Good. No special transport conditions necessary.

## 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:

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