Section 1 - Identification of The Material and Supplier

Ensystex Australasia Pty Ltd
Warehouse D, Building 6, The Switchyard
161 Manchester Road, AUBURN, NSW 2144
13 35 36 (all hours)

Ensystex New Zealand Ltd
17C Corinthian Drive
Albany, Auckland 0752
0800 ENSYSTEX (0800 367 978)

Chemical nature: **Permethrin is a pyrethroid**

Trade Name: **PERMETHOR™ Insecticidal Dust**

Product Code: Australia APVMA: 59005 New Zealand HSR Approval: HSR 000272

Product Use: Insecticide for use as described on the registered product label.
APPROVED for use in food manufacturing and food processing areas.

Creation Date: **October, 2004**

This version issued: **October, 2023** and is valid for 5 years from this date.

Section 2 - Hazards Identification

Statement of Hazardous Nature

This product is classified as: This product is not hazardous according to the criteria of SWA.

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

SUSMP Classification: Unscheduled

ADG Classification: None allocated. Not a Dangerous Good according to Australian Dangerous Goods (ADG) Code, IATA or IMSBC criteria.

IATA: Non-Hazardous for Air Transport.

UN Number: None allocated.

GHS Signal word: WARNING

HAZARD STATEMENT:

H317: May cause an allergic skin reaction.
H410: Very toxic to aquatic life with long lasting effects.

PREVENTION

P102: Keep out of reach of children.
P261: Avoid breathing dust.
P272: Contaminated work clothing should not be allowed out of the workplace.
P273: Avoid release to the environment.
P280: Wear protective gloves, protective clothing and eye or face protection.

RESPONSE

P302+P352: IF ON SKIN: Wash with plenty of soap and water.
P333+P313: If skin irritation or rash occurs: Get medical advice.
P362+P364: Take off contaminated clothing and wash before reuse.
P391: Collect spillage.

STORAGE

P402+P404: Store in a dry place. Store in a closed container.

DISPOSAL

P501: If they cannot be recycled, dispose of contents to an approved waste disposal plant and containers to landfill (see Section 13 of this SDS).

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_{50} for technical permethrin in rats of over 5000 mg/kg. Via the dermal route, it is not harmful, with a reported dermal LD_{50} in rats of over 5000 mg/kg, and in rabbits of greater 2000 mg/kg.

Potential Health Effects

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.
Long Term exposure: No data for health effects associated with long term inhalation.

Skin Contact:
Short term exposure: Available data indicates that this product is not harmful. However it may cause transient discomfort in sensitive person.
Long Term exposure: No data for health effects associated with long term skin exposure.

Eye Contact:
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.
Long Term exposure: No data for health effects associated with long term eye exposure.

Ingestion:
Short term exposure: Significant oral exposure is considered to be unlikely. Available data indicates that this product is not harmful.
Long Term exposure: No data for health effects associated with long term ingestion.

Carcinogen Status:

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

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc,%	TWA (mg/m^3)	STEL (mg/m^3)
Permethrin	52645-53-1	1% (10 g/kg)	not set	not set
Other non hazardous ingredients	various	99% approx.	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 SWA 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 or irritated by this product. The number is 13 11 26 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this SDS with you when you call.
Inhalation: No first aid measures normally required. However, if inhalation occurs, and irritation develops, remove to fresh air and observe until recovered. If irritation becomes painful or persists more than about 30 minutes, seek medical advice.
Skin Contact: Wash gently and thoroughly with water (use non-abrasive soap if necessary) for 5 minutes or until removed. If symptom persist, seek medical advice.

Eye Contact: Carefully brush particles out of eye and then flush the contaminated eye(s) with lukewarm, gently flowing water for 10 minutes or until the product is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Take special care if exposed person is wearing contact lenses.
Ingestion: If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or doctor.

Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. There is no risk of an explosion from this product under normal circumstances if it is involved 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.
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: 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 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. Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned below (section 8). Otherwise, not normally necessary.
Stop leak if safe to do so, and contain spill. 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. Consider vacuuming if appropriate. 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 SDS 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 SDS 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: Make sure that containers of this product are kept tightly closed. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. Check packaging for further storage instructions.

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**, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

SWA Exposure Limits	**TWA (mg/m^3)**	**STEL (mg/m^3)**

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

The ADI for permethrin is set at 0.05 mg/kg/day. The corresponding NOEL is set at 5 mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, Dec 2002.

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.
Ventilation: This product should be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.
Eye Protection: Protective glasses or goggles should be worn when this product is being used.

Skin Protection: Prevent skin contact by wearing impervious gloves. See below for suitable material types.
Protective Material Types: We suggest that protective clothing be made from the following materials: rubber, PVC.
Respirator: Use of a suitable dust mask is recommended.

Section 9 - Physical and Chemical Properties

Physical Description & colour:	White to off-white powder.
Odour:	Negligible.
Boiling Point:	Not applicable.
Freezing/Melting Point:	Decomposes before melting.
Volatiles:	No specific data. Expected to be low at 100° C.
Water Solubility:	Negligible.
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: Keep containers tightly closed.
Incompatibilities: strong acids, strong bases, oils.
Fire Decomposition: Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly 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 will not undergo polymerisation reactions.

Section 11 - Toxicological Information

Toxicity: Acute toxicity: Permethrin is harmful to non-harmful via the oral route, with a reported LD_{50} for technical permethrin in rats of greater than 5000 mg/kg. Via the dermal route, it is not harmful, with a reported dermal LD_{50} in rats of over 5000 mg/kg, and in rabbits of greater 2000 mg/kg. 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.
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 metabolised 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. Permethrin does not block, or inhibit, cholinesterase enzymes.

Classification of Hazardous Ingredients

Ingredient	**Risk Phrases**

There is no data to hand indicating any particular target organs.

Section 12 - Ecological Information

Effects on birds: Permethrin is practically non-toxic to birds. The oral LD_{50} 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 quail.
Effects on aquatic organisms: Aquatic ecosystems are vulnerable to the impact of permethrin.
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: Containers should be emptied as completely as practical before disposal. If possible, recycle product and containers either in-house or send to recycle company. If this is not practical, send to a commercial waste disposal site.

Section 14 - Transport Information

ADG Code: This product is not classified as a Dangerous Good by ADG, IATA or IMSBC criteria. No special transport conditions are necessary unless required by other regulations.
IATA: Non-Hazardous for Air Transport.

Section 15 - Regulatory Information

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations.

Section 16 - Other Information

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

If there is any conflict between this SDS and the registered label, instructions on the label prevail.

Acronyms:

ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition)
AICS	Australian Inventory of Chemical Substances
SWA	Safe Work Australia, formerly ASCC and NOHSC
CAS number	Chemical Abstracts Service Registry Number
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially fire-fighters
IARC	International Agency for Research on Cancer
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
R-Phrase	Risk Phrase
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
UN Number	United Nations Number

Please read all labels carefully before using product.