

# Material Safety Data Sheet



PRODUCT NAME **Deltashield 10 Residual Insecticide**  
APVMA Product Code: 52365

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## 1 - IDENTIFICATION OF CHEMICAL PRODUCT AND COMPANY

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**Supplier Name** **IMTRADE AUSTRALIA PTY LTD**  
**Address** 17 Ocean Street, Kwinana, Western Australia, AUSTRALIA, 6167  
**Telephone** (08) 9419 0333  
**Fax** (08) 9419 7516  
**Emergency** In a Transport Emergency Dial 000 – Police or Fire Brigade  
**Email** sales@imtrade.com.au  
**Web site** <http://www.imtrade.com.au>  
**Product Use:** Agricultural insecticide for use as described on the product label.  
**Creation Date:** **May, 2008**  
**This version issued:** **First issue: May, 2008**  
**Product type:** Deltamethrin is a pyrethroid derived insecticide.

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## SECTION 2 - HAZARDS IDENTIFICATION

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### Statement of Hazardous Nature

This product is classified as: Not classified as hazardous according to the criteria of ASCC.

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

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

**Safety Phrases:** S23, S36, S24/25. Do not breathe spray mists. Wear suitable protective clothing. Avoid contact with skin and eyes.

**SUSDP Classification:** S5

**ADG Classification:** None allocated. Not a Dangerous Good under the ADG Code.

**UN Number:** None allocated

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### Emergency Overview

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**Physical Description & Colour:** Clear, colourless liquid.

**Odour:** Practically odourless.

**Major Health Hazards:** Symptoms and consequences of Deltamethrin poisoning include: sweating, fever, anxiety and rapid heartbeat. If swallowed, symptoms are likely to include feeling sick, vomiting, diarrhoea, twitching of arms and legs, and convulsions if poisoning is severe. Studies have shown many cases of dermal Deltamethrin poisoning after agricultural use with inadequate handling precautions, and many cases of accidental or suicidal poisoning by the oral route at doses estimated to be 2-250 mg/kg. Oral ingestion caused epigastric pain, nausea, vomiting and coarse muscular fasciculations. With doses of 100-250 mg/kg, coma was caused within 15-20 minutes. No significant risk factors have been found for this product.

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### Potential Health Effects

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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 causes skin numbness but further symptoms are not available. In addition product is believed to be mildly irritating, but is unlikely to cause anything more than mild transient discomfort.

#### Eye Contact:

**Short Term Exposure:** This product is believed to be mildly irritating, to eyes, but is unlikely to cause anything more than mild transient discomfort.

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Poisons Information Centre: 13 1126 from anywhere in Australia, (0800 764 766 in New Zealand)

**Ingestion:**

**Short Term Exposure:** Significant oral exposure is considered to be unlikely. However, this product may be irritating to mucous membranes but is unlikely to cause anything more than transient discomfort.

**Carcinogen Status:**

**ASCC:** No significant ingredient is classified as carcinogenic by ASCC.

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

**IARC:** Deltamethrin is Class 3 - unclassifiable as to carcinogenicity to humans.

See the IARC website for further details. A web address has not been provided as addresses frequently change.

**SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS**

Ingredients	CAS No	Conc,%	TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )
Deltamethrin	52918-63-5	10g/L	not set	not set
Other non hazardous ingredients	secret	<15%	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.

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:** 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:** Wash gently and thoroughly with water (use non-abrasive soap if necessary) for 10 minutes or until chemical is removed. If irritation persists, repeat flushing and obtain medical advice.

**Eye Contact:** Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed, while holding the eyelid(s) open. Obtain medical advice immediately if irritation occurs. Take special care if exposed person is wearing contact lenses.

**Ingestion:** If product is swallowed or gets in mouth, do NOT induce vomiting; wash mouth with water and give some water to drink. If symptoms develop, or 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 are likely to be irritating if inhaled.

**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. 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, butyl rubber. Eye/face protective equipment should comprise as a minimum, protective glasses and, preferably, goggles. If there is a significant chance that vapours or mists are likely to build up in the

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cleanup area, we recommend that you use a respirator. 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. 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.

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## SECTION 7 - HANDLING AND STORAGE

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**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 schedule 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 "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.

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## SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

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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**.

<b>ASCC Exposure Limits</b>	<b>TWA (mg/m<sup>3</sup>)</b>	<b>STEL (mg/m<sup>3</sup>)</b>
Propylene glycol	474	not set

The ADI for Deltamethrin is set at 0.01mg/kg/day. The corresponding NOEL is set at 1mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, Dec 2006.

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

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

**Skin Protection:** Prevent skin contact by wearing impervious gloves, clothes and, preferably, apron. Make sure that 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.

Safety deluge showers should, if practical, be provided near to where this product is being used.

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## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES:

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<b>Physical Description &amp; colour:</b>	Clear, colourless liquid.
<b>Odour:</b>	Practically odourless.
<b>Boiling Point:</b>	Approximately 100°C at 100kPa.
<b>Freezing/Melting Point:</b>	Below 0°C.
<b>Volatiles:</b>	Water component.
<b>Vapour Pressure:</b>	2.37 kPa at 20°C (water vapour pressure).
<b>Vapour Density:</b>	No data.
<b>Specific Gravity:</b>	1.01 at 20°C
<b>Water Solubility:</b>	Completely soluble in water.
<b>pH:</b>	No data.
<b>Volatility:</b>	No data.

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<b>Odour Threshold:</b>	No data.
<b>Evaporation Rate:</b>	No data.
<b>Coeff Oil/water Distribution:</b>	No data
<b>Autoignition temp:</b>	Not applicable - does not burn.

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**SECTION 10 - STABILITY AND REACTIVITY**

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**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.

**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. 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 will not undergo polymerisation reactions.

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**SECTION 11 - TOXICOLOGICAL INFORMATION**

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**Toxicity:** An information profile for Deltamethrin is available at <http://extoxnet.orst.edu/pips/ghindex.html>

**Acute Toxicity:**

The acute oral LD<sub>50</sub> in male rats ranged from 128 mg/kg to greater than 5,000 mg/kg depending on the carrier and conditions of the study; the LD<sub>50</sub> for female rats was 52 mg/kg and other published values range from 31 to 139 mg/kg. Values ranging from 21 to 34 mg/kg were obtained for mice; while dogs had a reported LD<sub>50</sub> of 300 mg/kg. The acute percutaneous LD<sub>50</sub> for rats was reported to be greater than 2,000 mg/kg; greater than 10,000 mg/kg for quail; and greater than 4,640 mg/kg for ducks. The acute dermal LD<sub>50</sub> for rabbits was greater than 2,000 mg/kg. No skin irritation and slight eye irritation were reported.

**Chronic Toxicity:** Suspected chronic exposure effects in humans include the following: involuntary movements of the limbs, trunk, and facial muscles, hypotension, prenatal damage and shock. Workers exposed to Deltamethrin during its manufacture over 7-8 years experienced transient skin and mucous membrane irritation, which could be prevented by use of gloves and face masks. No other ill effects were seen.

**Reproductive Effects:** Oral administration of Deltamethrin to mice on days 7 to 16 of gestation produced a dosage-related reduction of weight gain but no effect on the number of implants, foetal mortality, foetal weight or malformations.

**Teratogenic Effects:** There were no reported teratogenic effects in mice, rats and rabbits. Deltamethrin has no teratogenic activity.

**Mutagenic Effects:** There were no mutagenic effects in mice, rats and rabbits. Deltamethrin has no mutagenic activity.

**Carcinogenic Effects:** No information was available.

**Organ Toxicity:** Deltamethrin is hydrolysed by liver microsomal enzymes to 3-(2,2dibromovinyl) 2,2-cyclopropane carboxylic acid and 3-phenoxybenzaldehyde.

**Fate in Humans and Animals.** In mammals, the point of death from Deltamethrin poisoning is sharply defined by respiratory or cardiac failure. Rats and dogs given oral doses of 10 mg/kg/day for 13 weeks exhibited some motor symptoms but no fatalities or pathological changes. The dogs exhibited diarrhoea and vomiting. A health survey of 199 workers who repacked pyrethroid insecticides into boxes by hand indicated that about two-thirds of the workers had a burning sensation and tightness and numbness on the face, while one-third had sniffs and sneezes. Abnormal sensations in the face, dizziness, tiredness and red rashes on the skin were more common in summer than in winter. Workers did not wear protective gloves in summer because of the heat. The symptoms usually occurred thirty minutes after exposure to the pyrethroids and rarely lasted more than 24 hours. Cold burning and numbness of the skin occurred to two-thirds of humans in a Chinese factory exposed to about 5-12 mg Deltamethrin per cubic meter of air. The other third suffered from sneezing and eye-watering. In addition, headache, heartburn and skin spots were reported, and these symptoms were dependent on the time of the year. There is no data to hand indicating any particular target organs.

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**Classification of Hazardous Ingredients**

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Ingredient	Risk Phrases
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No ingredient mentioned in the HSIS Database is present in this product at hazardous concentrations.

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**SECTION 12 - ECOLOGICAL INFORMATION**

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This product is biodegradable. It will not accumulate in the soil or water or cause long term problems. This product is unlikely to accumulate in body tissues.

**Effects on Birds:** The reported 8-day LC<sub>50</sub> for ducks was greater than 4,640 mg/kg diet; and greater than 10,000 mg/kg diet for quail.

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**Effects on Aquatic Organisms:** As is common with many pyrethroids, Deltamethrin has a high toxicity to fish under laboratory conditions. However, in field conditions under normal conditions of use, fish are not harmed. In laboratory trials, the LC<sub>50</sub> for fish was 1-10µg/L. Aquatic fauna, particularly crustacea, may be affected, but fish are not harmed under normal conditions of use.

**Effects on Other Animals (Nontarget species):** Deltamethrin is considered toxic to bees. Deltamethrin is very toxic over long periods to the predatory mite *Typhlodromum pyri*. The parasitic wasp *Encarsia formosa*, released in greenhouses to combat whitefly, is too sensitive to allow a treatment with Deltamethrin against excessive outbreaks of whiteflies. Deltamethrin had little or no effect on adults or cocoons of *Apanteles plutellae*, a parasite of the diamond back moth in India. Spiders were also indicated to be strongly affected in field investigations.

#### ENVIRONMENTAL FATE

**Breakdown of Chemical in Soil and Groundwater:** In soil, degradation occurs within 1-2 weeks.

**Breakdown of Chemical in Surface Water:** Deltamethrin in pond water was rapidly adsorbed, mostly by sediment, in addition to uptake by plants and evaporation into the air.

**Breakdown of Chemical in Vegetation:** About 10 days after use, there are no Deltamethrin residues observed on plants. There is no known phytotoxicity to crops.

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#### SECTION 13 - DISPOSAL CONSIDERATIONS

**Disposal:** Special help is available for the disposal of Agricultural Chemicals. The product label will give general advice regarding disposal of small quantities, and how to cleanse containers. However, for help with the collection of unwanted rural chemicals, contact ChemClear 1800 008 182 <http://www.chemclear.com.au/> and for help with the disposal of empty drums, contact DrumMuster <http://www.drummuster.com.au/> where you will find contact details for your area.

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#### 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.

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#### SECTION 15 - REGULATORY INFORMATION

**AICS:** All of the significant ingredients in this formulation are compliant with NICNAS regulations. The following ingredient: Deltamethrin, is mentioned in the SUSDP.

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#### 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 (7 <sup>th</sup> edition)
<b>AICS</b>	Australian Inventory of Chemical Substances
<b>ASCC</b>	Office of the Australian Safety and Compensation Council
<b>CAS number</b>	Chemical Abstracts Service Registry Number
<b>Hazchem Code</b>	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
<b>IARC</b>	International Agency for Research on Cancer
<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 on 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 Imtrade Australia Pty Ltd, or in the event of an emergency, 000. 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.

This MSDS is prepared in accord with the ASCC document "National Code of Practice for the Preparation of Material Safety Data Sheets" 2nd Edition [NOHSC:2011(2003)]

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<http://www.kilford.com.au/> Phone (02)9251 4532

End of Report

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