

# MATERIAL SAFETY DATA SHEET



Date of Issue: September 24, 2002

## 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND SUPPLIER

**Product name** Decis Options® Insecticide  
**Other names** None  
**Product code** AE F032640 EC03 B6  
**Chemical group** Synthetic pyrethroid  
**Recommended use** Agricultural insecticide  
**Formulation** Emulsifiable concentrate  
**Supplier** Bayer CropScience Pty Ltd ABN 87 000 226 022  
**Address** 391 - 393 Tooronga Road, East Hawthorn  
Victoria 3123, Australia  
**Telephone** (03) 9248 6888  
**Facsimile** (03) 9248 6800  
**Website** [www.bayercropscience.com.au](http://www.bayercropscience.com.au)  
**Contact** Development Manager (03) 9248 6888  
**Emergency Telephone Number** 1800 033 111 – Orica SH&E Shared Services

## 2. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

**HAZARDOUS SUBSTANCE (see Risk phrases below) – NON DANGEROUS GOOD**  
Combustible liquid. Contact with skin or eyes may be very painful. Dangerous to fish and bees.

**Hazard designation** Hazardous (National Occupational Health and Safety Commission - NOHSC)

**Risk phrases** R22 - Harmful if swallowed.  
R41 - Risk of serious damage to eyes.  
R65 - Harmful: May cause lung damage if swallowed.

**Safety phrases** See Sections 4, 5, 6, 7, 8, 10, 12, 13

**ADG classification** Not a "Dangerous good" for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

**SUSDP classification** Schedule 6 (Standard for the Uniform Scheduling of Drugs and Poisons)

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	CAS Number	Concentration (g/L)
Deltamethrin	[52918-63-5]	27.5
Hydrocarbon solvent	[64742-94-5]	811
Naphthalene (in hydrocarbon solvent)	[91-20-3]	(24 - 49)
Butylated hydroxy toluene	[128-37-0]	1
Other ingredients (surfactants/emulsifiers)	(non hazardous)	72

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## 4. FIRST AID MEASURES

**If poisoning occurs, immediately contact a doctor or Poisons Information Centre (telephone 13 11 26), and follow the advice given. Show this Material Safety Data Sheet to the doctor.**

**Inhalation** If inhaled, remove to fresh air and keep at rest. Loosen clothes. Obtain medical advice if at all worried. If breathing stops or shows signs of failing, start artificial respiration.

**Skin contact** Carefully remove contaminated clothing and footwear. Wash affected areas with soap and water. Apply Vitamin E cream, toilet milks or local anaesthetic creams to reduce pain. Seek medical advice if at all worried. Launder contaminated clothing before re-use.

**Eye contact** Rinse eyes immediately with clean water for at least 15 minutes and obtain urgent medical aid.

**Ingestion** Wash out mouth with water. DO NOT induce vomiting. Give a glass of water. Do not give anything by mouth if the patient is semi-conscious or unconscious. Keep patient at rest and seek medical advice as above. Do not apply mouth to mouth resuscitation if the material has been ingested.

**First Aid Facilities** Ensure eyewash and safety shower facilities are available in the workplace.

### Medical attention

#### Symptoms

*Local:* Skin and eye paraesthesiae, which may be severe. Usually transient with resolution within 24 hours.

*Systemic:* Dizziness, headache, listlessness, nausea, anorexia and vomiting, epigastric pain, muscular fasciculation of limbs, anaesthesia or other CNS effects; also, upper respiratory tract irritation, pulmonary oedema, unconsciousness, convulsions, coma with very high doses/exposures.

#### Treatment

*Local:* Skin – apply Vitamin E cream or simple toilet milks.

Eyes - Instil local anaesthetic drops e.g. 1% amethocaine hydrochloride eye drops. Give analgesics as necessary.

*Systemic:* Monitor respiratory and cardiac functions. Observe electrocardiograph, and check for pulmonary oedema in event of inhalation.

Gastric lavage and charcoal administration. (Paraesthesiae of mouth, tongue, larynx and pharynx may be present.) As this product contains hydrocarbon solvents, care should be taken to prevent pulmonary aspiration.

Endotracheal intubation, and artificial respiration, as necessary.

Anti-convulsant therapy with diazepam i.v.

No specific antidote.

Contraindications – adrenergic compounds, atropine.

Recovery should be spontaneous.

Must NOT be confused with organophosphorus (anticholinesterase) compounds.

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## 5. FIRE FIGHTING MEASURES

<b>Hazards from combustion products</b>	Heating/combustion will generate oxides of carbon and nitrogen, bromine compounds and other irritant and toxic fumes.
<b>Precautions for fire fighters</b>	The product is a Class C1 Combustible liquid. Firefighters should wear full protective gear, including self-contained breathing apparatus (AS/NZS 1715/1716). Keep unnecessary people away. If it can be done safely, remove intact containers from the fire. Otherwise, use water spray to cool them. Avoid spraying directly into containers due to danger of boilover. Bund area with sand or earth to prevent contamination of drains or waterways. Dispose of fire control water or other extinguishing agent and spillage safely later. Do not release contaminated water into the environment.

## 6. ACCIDENTAL RELEASE MEASURES

Avoid contact with the spilled material or contaminated surfaces. Extinguish or remove all possible sources of ignition. When dealing with spills do not eat, drink or smoke and wear protective clothing and equipment as described in Section 8 - PERSONAL PROTECTION. Keep people and animals away. Prevent spilled material from entering drains or watercourses. Contain spill and absorb with earth, sand, clay, or other absorbent material. Collect and store in properly labelled, sealed drums for safe disposal. Deal with all spillages immediately. If contamination of drains, streams, watercourses, etc. is unavoidable, warn the local water authority.

## 7. HANDLING AND STORAGE

<b>Handling</b>	Keep out of reach of children. Will irritate the eyes and skin. Avoid contact with eyes and skin. Do not inhale vapour. If product in eyes, wash it out immediately with water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, goggles and contaminated clothing.
<b>Storage</b>	Store in the closed, original container in a cool, secure, well-ventilated area. Do not store for prolonged periods in direct sunlight. Keep away from all ignition sources.
<b>Flammability</b>	Combustible liquid, Class C1 - flashpoint between 61° C and 150° C.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>Exposure standards</b>	Bayer recommends an Occupational Exposure Standard for deltamethrin of 0.28 g/m <sup>3</sup> . The manufacturer of the solvent recommends the following Occupational Exposure Limits: Solvent naphtha (petroleum), heavy aromatic: TWA: 100 mg/m <sup>3</sup> (17 ppm). For the naphthalene present in the solvent the NOHSC Occupational Exposure Limits are: TWA: 10 ppm (52 mg/m <sup>3</sup> , STEL: 15 ppm (79 mg/m <sup>3</sup> ). Skin notation. <u>Definitions:</u> <i>Exposure standard – Time Weighted Average (TWA)</i> means the average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day working week. <i>Exposure standard – Short term exposure limit (STEL)</i> means a 15 minute TWA exposure which should not be exceeded at any time during the working day. <i>Skin notation</i> – Absorption through the skin may be a significant source of exposure.
<b>Engineering controls</b>	Control process conditions to avoid contact. Use in a well-ventilated area only.

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**Personal Protective Equipment** It is important to protect eyes and skin as contact with this product may cause severe pain.

- Wear face shield
- Wear cotton overalls buttoned to the neck and wrist and a washable hat.
- Wear elbow-length PVC gloves.
- If working in a poorly ventilated area or if occupational exposure levels are likely to be exceeded, wear a respirator suitable for organic vapours - AS/NZS 1715/1716 approved.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Clear yellow liquid  
**Odour:** Distinctive aromatic hydrocarbon  
**pH:** 4.5 to 7.0 (5% in water)  
**Vapour pressure:** 0.3 kPa at 38° C (hydrocarbon solvent)  
**Vapour density:** > 1.0 (hydrocarbon solvent)  
**Boiling point:** 179 - 213° C (hydrocarbon solvent)  
**Freezing/melting point:** Not available  
**Solubility:** Forms an emulsion in water  
**Specific Gravity:** 0.912 at 20° C  
**Flash Point:** 65 - 69° C (Pensky Martens Closed Cup)  
**Flammability (explosive) limits:** LEL: 0.6; UEL: 7.0 Vol. % in air (hydrocarbon solvent)  
**Auto-ignition temperature:** > 400° C  
**Partition coefficient (octanol/water):** *Deltamethrin*:  $K_{ow} \log P = 4.6$  (25° C)

## 10. STABILITY AND REACTIVITY

**Chemical stability** Stable under normal conditions of use.

**Hazardous polymerisation** Will not polymerise.

**Conditions to avoid** Avoid sources of ignition and extreme heat.

**Incompatible materials** Avoid oxidising agents, strong acids and alkalis.

**Hazardous decomposition products** Heating/combustion will generate oxides of carbon and nitrogen, and bromine compounds.

## 11. TOXICOLOGICAL INFORMATION

### POTENTIAL HEALTH EFFECTS

<b>Inhalation</b>	Inhalation of product vapour may cause transient irritation of mucous membranes (nose, throat and respiratory tract), may cause headaches, dizziness, drowsiness, could be anaesthetic, and may have other central nervous system effects lasting for up to 24 hours.
<b>Skin contact</b>	Irritating. Contact with the skin, especially the face, may result in initial stinging, burning or tingling sensations (fingertips, nose), followed by numbness or pain which may persist for up to 24 hours. (Although skin irritation tests in animals show deltamethrin to be non-irritating, experience has shown it to cause these symptoms on human skin.) Repeated exposure may cause skin dryness or cracking.
<b>Eye contact</b>	May be severely irritating to the eyes.
<b>Ingestion</b>	Symptoms include burning sensations and numbness in the mouth and throat, headache, dizziness, drowsiness, diarrhoea, nausea, vomiting, listlessness, stomach pain, muscular twitching of arms or legs, unconsciousness, convulsions, and coma (very high doses). Small amounts of liquid aspirated into the respiratory system during ingestion or from vomiting may cause bronchopneumonia or pulmonary oedema.

### ANIMAL TOXICITY DATA – PRODUCT

#### Acute:

<b>Oral toxicity</b>	LD <sub>50</sub> rat: 6480 mg/kg ( <i>similar product</i> )
<b>Dermal toxicity</b>	LD <sub>50</sub> rabbit: > 2000 mg/kg ( <i>similar product</i> )
<b>Inhalation toxicity</b>	LC <sub>50</sub> rat: > 11.3 mg/L (6 h) ( <i>similar product</i> )
<b>Skin irritation</b>	Slightly irritating (rabbit) ( <i>similar product</i> )
<b>Eye irritation</b>	Irritating (rabbit) ( <i>similar product</i> )
<b>Sensitisation</b>	Non-sensitising (guinea pig) ( <i>similar product</i> )

#### Chronic:

Deltamethrin is not mutagenic, carcinogenic or teratogenic. This product contains naphthalene. A National Toxicology Program (NTP) report states that lifetime inhalation exposure to naphthalene resulted in increases in tumours of the nose in rats. In a previous NTP study, lifetime inhalation exposure to naphthalene increased lung tumours in female mice. The relevance of the rodent findings to humans is questionable.

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## 12. ECOLOGICAL INFORMATION

Deltamethrin is highly toxic to fish, aquatic organisms and bees in laboratory studies, but considered less toxic under natural conditions. DO NOT contaminate streams, rivers or waterways with Decis Options or the used containers.

### Ecotoxicity

#### Deltamethrin:

##### *Fish toxicity:*

LC<sub>50</sub> (96 h) 0.001 – 0.01 mg/L

##### *Bird toxicity:*

Acute oral LD<sub>50</sub> for duck > 5000 mg/kg

Acute oral LD<sub>50</sub> for quail > 10000 mg/kg

### Environmental fate, persistence and degradability

Deltamethrin is not persistent in the environment. It is destroyed by soil micro-organisms and does not leave residues in the environment or build up in the food chain.

The hydrocarbon solvent is volatile and will evaporate if released into water. It is biodegradable.

## 13. DISPOSAL CONSIDERATIONS

When returnable container is empty or contents no longer required return it to the point of purchase. For non-returnable containers, triple or (preferably) pressure rinse them before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on-site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt. Dispose of waste product through a reputable waste contractor.

## 14. TRANSPORT INFORMATION

<b>UN number</b>	Not applicable
<b>Proper shipping name</b>	Not applicable
<b>Class and Subsidiary Risk</b>	Not applicable
<b>Packing Group</b>	Not applicable
<b>EPG</b>	Not applicable
<b>Hazchem code</b>	Not applicable
<b>Marine Pollutant</b>	No

## 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Act 1988

National Registration Authority approval number: 51849

See also Section 2.

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## 16. OTHER INFORMATION

**Trademark information** Decis Options® is a Registered Trademark of Bayer.

**Preparation information** Replaces August 1, 2002 MSDS.  
Reasons for revision: Updated MSDS for solvent, 16 heading format, Medical Advice.

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 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 this company.

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.

END OF MSDS