

MATERIAL SAFETY DATA SHEET

Fenthion EC80 Insecticide

Date of Issue: 15 December 2009

1. IDENTIFICATION OF MATERIAL AND SUPPLIER

Product name Lebaycid Fruit Fly & Insect Killer
Other names None
Product codes Not available
Chemical group Organophosphorus
Recommended use Insecticide for the control of fruit fly and certain other pests in the home garden.
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
Contact Technical Manager (03) 9248 6888
Emergency
Telephone Number 1800 033 111 – Orica SH&E Shared Services

2. HAZARDS IDENTIFICATION

HAZARDOUS SUBSTANCE – NON-DANGEROUS GOOD

Harmful by inhalation. Possible risks of irreversible effects. Harmful: danger of serious damage to health by prolonged exposure if swallowed. Harmful: may cause lung damage if swallowed.

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

Risk phrases R 20 – Harmful by inhalation.
R48/22 – Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R68 – Possible risks of irreversible effects.
R65 – Harmful: may cause lung damage if swallowed.

Safety phrases See Sections 4, 5, 6, 7, 8, 9, 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. For transport by sea, Lebaycid Fruit Fly & Insect Killer is a MARINE POLLUTANT. See Section 14.

SUSDP classification Schedule 5 (Standard for the Uniform Scheduling of Drugs and Poisons)

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	CAS Number	Concentration (g/L)
Fenthion	[55-38-9]	80
Aromatic hydrocarbon	[64742-94-5]	720
2,6-Di-tert-butyl-p-cresol	[128-37-0]	1
Other ingredients	(non hazardous)	125

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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. Obtain medical advice. If breathing stops or shows signs of failing, start artificial respiration. If advised by doctor or Poisons Information Centre, atropine tablets may be administered.
Skin contact	Immediately remove contaminated clothing. Wash affected areas with soap and water. Seek medical aid. If advised by doctor or Poisons Information Centre, atropine tablets may be administered.
Eye contact	Rinse eyes immediately with clean water for at least 15 minutes and obtain medical aid.
Ingestion	Wash out mouth with water. Do NOT induce vomiting. Give a glass of water. Keep patient at rest and seek medical advice immediately, as above. Transport patient to doctor or hospital quickly. If advised by doctor or Poisons Information Centre, atropine tablets may be administered. DO NOT attempt to give anything by mouth to a semi-conscious or unconscious person.
First Aid Facilities	Provide eyewash and safety shower facilities in the workplace.
Medical attention	<p>This product contains fenthion which is an organophosphorus compound, and as such it is a cholinesterase inhibitor. It also contains an aromatic hydrocarbon solvent.</p> <p>Symptoms of poisoning Mild intoxication causes headache, blurred vision, weakness, sweating, mild chest pain, nausea and vomiting. Severe intoxication causes cyanosis (blueness of the skin, as from lack of oxygen), muscular twitching, spasms, miosis (pinpoint pupils) and respiratory paralysis.</p> <p>Treatment Basic aid, decontamination, symptomatic treatment and if necessary administration of antidote.</p> <p>Note for physicians As this product contains xylene, care should be taken to prevent pulmonary aspiration. Small amounts of liquid aspirated into the respiratory system during ingestion or from vomiting may cause bronchopneumonia or pulmonary oedema. Treatment for organophosphorus compounds is with atropine and oximes. Additionally diazepam should be given in case of seizures/convulsions. Before treatment is started, either clear symptoms of organophosphorous insecticide poisoning as described above should be present or a reduction of cholinesterase activity to below 30% of normal should be found.</p> <p>Atropine: 2 regimens for initial atropine treatment are currently suggested. In both cases the cessation of the cholinergic symptoms salivation, bronchial secretion, sweating and bradycardia indicates sufficient atropinization. The skin should be dry, the lungs should be clear on auscultation and the heart rate should be in a range of 80 to 100/minute. Overdoses of atropine have to be strictly avoided, as these can promote heart rhythm disturbances.</p>

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Regimen 1:

2-10 mg atropine i.v. , followed every 15 minutes by 2 mg atropine i.v. until cessation of the symptoms.

Regimen 2:

- 2 mg atropine i.v., 5 minutes wait, if symptoms persist or reappear
- 4 mg atropine i.v., 5 minutes wait, if symptoms persist or reappear
- 8 mg atropine i.v., 5 minutes wait, if symptoms persist or reappear
- 16 mg atropine i.v., 5 minutes wait, if symptoms persist or reappear
- 32 mg atropine i.v.

No higher doses of atropine should be given nor are necessary.

It is mandatory to allow 5 minutes after each dose for atropine to become fully effective, the next higher dose must not be given earlier and only if the above symptoms are persisting. Regimen 2 currently is advisable. If further atropine treatment is required, it should be done by continuous application of 1 – 2 mg/hour. Atropine treatment can be stopped, when the plasma cholinesterase level has returned to above 30% of normal.

Oximes:

Nowadays oximes are unanimously suggested for the treatment of severe organophosphorous insecticide poisoning. The treatment should be started as early as possible without further delay.

Regimen obidoxime:

Initial bolus injection of 250 mg i.v. (about 3 mg/kg body weight) over 15 minutes,
Continuous infusion of 30 mg/hour

Regimen pralidoxime:

Initial bolus injection of 40 mg/kg body weight
Continuous infusion of 0.5 g/hour

The continuous infusions of oximes should be continued until plasma cholinesterase has returned to above 30% of normal

Survival of patients after severe organophosphorous insecticide poisoning is strongly dependent on effective intensive care treatment, as aspiration pneumonia and multi-organ failure are typically the final causes of death in such cases. Thus in severe cases with cardiorespiratory failure and resuscitation the above regimens, though doubtlessly effective against the cholinesterase inhibition, may not improve the outcome, because adequate ICU therapy is critical.

5. FIRE FIGHTING MEASURES

Extinguishing media	Waterspray, foam, dry chemical, carbon dioxide, sand.
Hazards from combustion products	In a fire, carbon monoxide, phosphorus pentoxide and sulphur dioxide may be formed.
Precautions for fire fighters	Firefighters should wear full protective gear, including self-contained breathing apparatus (AS/NZS 1715/1716). Keep unnecessary people away and move all other personnel to

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windward side of fire. Use water spray to cool fire-exposed containers. 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.

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with the spilled material or contaminated surfaces. Do not smoke, eat or drink during the cleanup process. Personnel involved in cleanup should wear protective clothing and equipment as described in Section 8 - PERSONAL PROTECTION. Keep people and animals away and upwind. 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 drums for safe disposal. Clean floor with a damp cloth and place cloth in drum. Cover and label drums for safe disposal. Thoroughly ventilate the area after cleanup. Deal with all spillages immediately. If contamination of drains, streams, watercourses, etc. is unavoidable, warn the local water authority. Decontaminate tools and equipment used in the cleanup.

7. HANDLING AND STORAGE

Handling Keep out of reach of children. Product is harmful if absorbed by skin contact, inhaled or swallowed. Avoid contact with eyes, skin and clothing. Do not inhale spray mist. If product on skin, immediately wash area with soap and 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, face shield or goggles and contaminated clothing.

Storage Store in the closed, original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight. Keep away from excessive heat, open flames and other sources of ignition.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure standards *NOHSC Exposure standards:*
TWA for fenthion is 0.2 mg/m³ Skin notation
TWA for 2,6-Di-tert-butyl-p-cresol is 10 mg/m³

Definitions:

Exposure standard – time weighted average (TWA) – the average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day working week.

Exposure standard - STEL (short term exposure limit) means a 15 minute TWA exposure which should not be exceeded at any time during a working day even if the eight-hour TWA average is within the TWA exposure standard. Exposures at the STEL should not be longer than 15 minutes and should not be repeated more than four times per day. There should be at least 60 minutes between successive exposures at the STEL.

Skin notation – Absorption through the skin may be a significant source of exposure.

Biological limit values Production workers and agricultural workers handling this product should be monitored for cholinesterase levels. A baseline level should be established prior to any potential exposure. See Guidelines for Health Surveillance [NOHSC:7039(1995)]

Engineering controls Control process conditions to avoid contact. Use local exhaust ventilation and spark proof equipment during manufacture. Use in a well-ventilated area only.

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Personal Protective Equipment	Product is harmful if absorbed by skin contact, inhaled or swallowed. <ul style="list-style-type: none">• Wear face shield or splash proof goggles• If inhalation is likely wear an AS/NZS 1715/1716 approved respirator.• Wear cotton overalls buttoned to the neck and wrist, a washable hat and impervious footwear.• Wear elbow-length PVC gloves.
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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear pale amber liquid
Odour:	Aromatic hydrocarbon
pH:	5.5 to 6.5 (1% in water)
Vapour pressure:	7.4×10^{-6} hPa (at 20° C) (fenthion)
Vapour density:	Not available
Boiling point:	Not available
Freezing/melting point:	Not available
Solubility:	Emulsifies in water
Specific Gravity:	0.924 - 0.934 g/mL at 20°C
Flash Point:	Not known
Flammability (explosive) limits:	Not known
Auto-ignition temperature:	Not applicable
Partition coefficient (octanol/water):	Fenthion: $\log P_{ow} = 4.84$ at 20° C

10. STABILITY AND REACTIVITY

Chemical stability	Stable under normal conditions of use.
Incompatible materials	Avoid iron and strong oxidising agents. Avoid highly alkaline conditions.
Hazardous decomposition products	In a fire, carbon monoxide, phosphorus pentoxide and sulphur dioxide may be formed.
Hazardous reactions	None

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11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

Fenthion, is an anticholinesterase compound. Symptoms typical of cholinesterase inhibition (for all routes of entry):

Mild cases

Headache, blurred vision, weakness, sweating, mild chest pain, nausea and vomiting.

Severe cases

Cyanosis (blueness of the skin, as from lack of oxygen), muscular twitching, spasms, miosis (pinpoint pupils) and respiratory paralysis.

Inhalation	Harmful by inhalation.
Skin contact	Harmful if absorbed by skin contact.
Eye contact	May be irritating to the eyes.
Ingestion	Harmful if swallowed.

ANIMAL TOXICITY DATA

Acute:

Oral toxicity	LD ₅₀ (rat) ca. 2500 mg/kg (Test conducted with a similar formulation)
Dermal toxicity	LD ₅₀ (rat) > 5000 mg/kg (Test conducted with a similar formulation)
Inhalation toxicity	LC ₅₀ (4 h) rat: approximately 0.5 mg/L air (aerosol) (<i>fenthion active ingredient</i>)
Skin irritation	Not irritating (Test conducted with a similar formulation)
Eye irritation	Not irritating (Test conducted with a similar formulation)
Sensitisation	Fenthion is not a skin sensitiser (guinea pig)

Chronic:

The main health effects from repeated exposure would be toxic symptoms of cholinesterase inhibition as described above. Chronic toxicity studies showed limited evidence of irreversible effects.

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12. ECOLOGICAL INFORMATION

Toxic to fish and aquatic invertebrates. Dangerous to birds. Dangerous to bees.
DO NOT contaminate streams, rivers or waterways with the chemical or used containers.

Ecotoxicity

Fenthion:

Fish toxicity:

LC₅₀: 2.7 mg/L (96 h); golden orfe (*Leuciscus idus melanotus*)

LC₅₀: 0.83 mg/L (96 h); rainbow trout (*Oncorhynchus mykiss*)

Aquatic invertebrate toxicity:

EC₅₀: 0.0057 mg/L (48 h); *Daphnia magna*

Algae toxicity:

IC₅₀: 1.79 mg/L (96 h); green algae (*Desmodesmus subspicatus*)

Bacteria toxicity:

EC₅₀: > 10000 mg/L; activated sludge

Bird toxicity:

LD₅₀: 7.2 mg/kg bobwhite quail

Environmental fate, persistence, degradability, mobility

Fenthion:

Not easily biodegradable. Bioconcentration factor: 396 - 438.

13. DISPOSAL CONSIDERATIONS

1) After intended use:

Consult State Authorities for safe disposal at an approved site.

2) After spill or accident:

Dispose of containers at an approved local waste disposal site.

14. TRANSPORT INFORMATION

UN number: 3082
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (contains fenthion),
Class and 9
Subsidiary Risk:
Packing Group: III
Hazchem code: 3W
Marine Pollutant Yes

15. REGULATORY INFORMATION

Bulk formulated insecticide for manufacturing of registered chemical products.

16. OTHER INFORMATION

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Trademark information

None.

Preparation information

Replaces 20 May 2008 edition.

Reason for change: Revision to First Aid Measures.

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