

MATERIAL SAFETY DATA SHEET

Baytex 550 Insecticide

Date of Issue: August 28th 2006

1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND SUPPLIER

Product name: Baytex 550 Insecticide
Other names: Lebaycid Insecticide Spray
Product code: 4938649 (5 L)
Chemical group: Organophosphorus
Recommended use: Insecticide concentrate for pest control use
Formulation: Emulsifiable Concentrate (EC)
Supplier: Bayer Environmental Science – A Business Group of 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 - DANGEROUS GOOD

Toxic if swallowed. Harmful in contact with skin. Flammable

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

Risk phrases: R68 – Possible risks of irreversible effects
R23 – Toxic by inhalation
R48/25 – Toxic: danger of serious damage to health by prolonged exposure if swallowed.
R21/22 – Harmful in contact with skin and if swallowed
R38 – Irritating to skin

Safety phrases: Not applicable

ADG classification: "Dangerous good" for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road and Rail – ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE (contains fenthion, xylene), Class 6.1 (3), UN 3017, PG III.

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

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients:	CAS Number:	Concentration (g/L):
Fenthion	55-38-9	550
Xylene	1330-20-7	334
Other ingredients	(non- hazardous)	176

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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 a 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. Obtain an emergency supply of atropine tablets 0.6 mg.
Medical attention	<p>Baytex contains fenthion which is an organophosphorus compound, and as such it is a cholinesterase inhibitor. It also contains xylene as the solvent.</p> <p><u>Symptoms of poisoning</u> 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><u>Treatment</u> Basic aid, decontamination, symptomatic treatment and if necessary administration of antidote.</p> <p><u>Note for physicians</u> <i>Antidote:</i> Atropine sulphate, possibly in conjunction with Toxogonin or obidoxime (PAM). As this product contains the hydrocarbon liquid, 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. Monitor respiratory, cardiac and central nervous system function. Monitor red blood cell and plasma cholinesterase levels. Administer oxygen if necessary. Watch for pulmonary oedema and delayed neurological symptoms. <i>Contraindications:</i> Adrenergic derivatives. 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.</p> <p>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 (taking into account the relatively short effect of carbamates), 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.

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:

Water fog, foam, carbon dioxide, extinguishing powder

Hazards from combustion products:

If involved in a fire: sulphur dioxide, phosphorus pentoxide may be emitted.

Precautions for fire fighters:

The product is a flammable liquid – flash point 38° C. Liquid and vapour of xylene are flammable and the vapour will form explosive mixtures with air. The vapour is heavier than air and may travel along the ground so that distant ignition is a possibility. 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 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. Contamination of water bodies should be avoided.

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6. ACCIDENTAL RELEASE MEASURES

Avoid contact with the spilled material or contaminated surfaces. Extinguish or remove all possible sources of ignition. 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 poisonous 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. Keep away from excessive heat, open flames and other sources of ignition.

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.

Flammability Flammable liquid. Flash point > 38° C.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure standards *NOHSC Exposure standards:*
TWA for fenthion is 0.2 mg/m³ Skin notation
TWA for xylene is 80 ppm, 350 mg/m³
STEL for xylene is 150 ppm, 655 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.

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.

Personal Protective Equipment: Product is harmful if absorbed by skin contact, inhaled or swallowed.

- Wear face shield or splash proof goggles
- If inhalation is likely wear an AS/NZS 1715/1716 approved respirator.

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- Wear cotton overalls buttoned to the neck and wrist, a washable hat and impervious footwear.
 - Wear elbow-length PVC gloves.
- During post harvest dipping operation wear a full-length waterproof apron as well.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear brown liquid
Odour:	Aromatic, chemical
pH:	4.9 to 5.9 (1% in water)
Vapour pressure:	7.4 x 10 ⁻⁶ hPa (at 20° C) (fenthion) 1 kPa (at 20° C) (xylene)
Vapour density:	3.7 (air = 1) (xylene)
Boiling point:	138 - 142° C (boiling point range of xylene)
Freezing/melting point:	Not available
Solubility:	Emulsifies in water
Specific Gravity:	1.112 at 20° C
Flash Point:	> 38° C
Flammability (explosive) limits:	LEL: 1.1; UEL: 6.6 Vol. % (xylene)
Auto-ignition temperature:	500° C (xylene)
Partition coefficient (octanol/water):	Fenthion: Log P _{ow} = 4.84 at 20° C Xylene: Log P _{ow} = 3.12 – 3.2

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:	Sulphur dioxide and phosphorus pentoxide may be emitted in the event of fire.

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

The active ingredient in Baytex, 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.

Baytex also contains xylene, a hydrocarbon liquid. Small amounts aspirated into the respiratory system during ingestion or from vomiting may cause bronchopneumonia or pulmonary oedema.

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Inhalation	Poisonous by inhalation. High vapour concentrations may be irritating to the respiratory tract and may cause headaches, dizziness, drowsiness, anaesthesia, and other central nervous system effects.
Skin contact	Poisonous if absorbed by skin contact. May irritate the skin. Xylene may cause defatting of the skin.
Eye contact	Slightly irritating to the eyes.
Ingestion	Poisonous if swallowed.

ANIMAL TOXICITY DATA

Acute:

Oral toxicity	LD ₅₀ rat: 309 - 474 mg/kg (<i>product</i>)
Dermal toxicity	LD ₅₀ rat: > 5000 mg/kg (<i>product</i>)
Inhalation toxicity	LC ₅₀ (4 h) rat: approximately 0.5 mg/L air (aerosol) (<i>fenthion active ingredient</i>)
Skin irritation	Slightly irritating (rabbit) (<i>product</i>)
Irritation to mucous membranes	Slightly irritating (rabbit) (<i>product</i>)
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. Repeated over-exposure to xylene may cause liver and kidney damage. Xylene is not mutagenic, not carcinogenic and does not impair fertility.

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

Xylene:

Fish toxicity:

LC₅₀: > 1 - < 10 mg/L

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Aquatic invertebrate toxicity:

EC₅₀: > 1 - < 10 mg/L

Algae toxicity:

EC₅₀: > 1 - < 10 mg/L

Bacteria toxicity:

EC₅₀: > 10 - < 100 mg/L

Environmental fate,
persistence,
degradability,
mobility

Fenthion:

Not easily biodegradable. Bioconcentration factor: 396 - 438.

Xylene:

Readily biodegradable. Oxidises rapidly in air by photochemical reactions.

13. DISPOSAL CONSIDERATIONS

Triple or preferably pressure rinse containers 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 as hazardous waste via a licensed disposal contractor to an approved landfill. Do not discharge into drains or sewers.

14. TRANSPORT INFORMATION

UN number: 3017
Proper shipping name: ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE (contains fenthion, xylene)
Class and Subsidiary Risk: 6.1
Subsidiary risk 3
Packing Group: III
EPG: Guide 17 – Dangerous Goods - Initial Emergency Response Guide
Hazchem code: 3W
Marine Pollutant: Yes (Fenthion is a Class "PP", Severe Marine Pollutant.)

15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Act 1988
Australian Pesticides and Veterinary Medicines Authority approval number: 32999

16. OTHER INFORMATION

Trademark information: Baytex[®] is a Registered Trademark of Bayer.

Preparation information: Replaces March 9th, 2006 MSDS.

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Reason for update: Risk phrases, First Aid – Note for Physicians, Hazardous Decomposition Products.

Data sources: Bayer CropScience Pty Ltd product safety data and published data

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