

MATERIAL SAFETY DATA SHEET

Baysol® Snail and Slug Bait

Date of Issue: August 28th, 2006

1. IDENTIFICATION OF SUBSTANCE / MIXTURE AND SUPPLIER

Product name Baysol® Snail and Slug Bait
Other names None
Product code 4952587 (250 g), 4952595 (600 g)
Chemical group Carbamate
Recommended use Molluscicide
Formulation Ready to use bait (RB)
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

EMERGENCY OVERVIEW

HAZARDOUS SUBSTANCE (see Risk phrases below) – **NON DANGEROUS GOOD**
Cholinesterase inhibitor. Harmful to aquatic organisms. Dangerous to domestic animals and wildlife.

Hazard classification Hazardous (National Occupational Health and Safety Commission - NOHSC)
Risk phrases R22 – Harmful if swallowed.
Safety phrases See Sections 4, 5, 6, 7, 8, 9, 13
ADG classification Not "Dangerous goods" for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.
SUSDP classification Schedule 5 (Standard for the Uniform Scheduling of Drugs and Poisons)

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	CAS Number	Concentration (g/kg)
Methiocarb (mercaptodimetur)	[2032-65-7]	20
Calcium sulphate	[7778-18-9]	75
Butylated hydroxy toluene	[128-37-0]	2
Other ingredients	Non-Hazardous	903

This product contains BITREX™ which is a deterrent designed to prevent domestic animals eating the bait pellets.

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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	Presentation as bait pellets makes inhalation unlikely.
Skin contact	Immediately remove contaminated clothing. Wash skin with soap and water. Seek medical attention if irritation develops or persists. If signs of poisoning occur get medical attention immediately. Persons assisting the patient should protect themselves from contamination. 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, preferably from an eye specialist.
Ingestion	Wash out mouth with water. Keep patient at rest and seek urgent medical advice 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>Methiocarb belongs to the carbamate group of insecticides, which are acetylcholinesterase inhibitors. Inhibition of acetylcholinesterase results in accumulation of the neurotransmitter acetylcholine in the central and peripheral nervous system.</p> <p><u>Symptoms of poisoning</u></p> <p>Mild intoxication causes headache, blurred vision, weakness, sweating, mild chest pain, nausea and vomiting. Severe intoxication causes cyanosis, muscular twitching, spasms, miosis and respiratory paralysis.</p> <p>Onset of symptoms may be delayed. Cholinesterase inhibition sometimes persists for several weeks.</p> <p><u>Treatment</u></p> <p>Basic aid, decontamination, symptomatic treatment and if necessary administration of antidote.</p> <p><u>Note for physicians</u></p> <p>Endotracheal intubation should be done and gastric lavage performed, followed by administration of charcoal. Treatment is with atropine sulphate. Additionally diazepam should be given in case of seizures/convulsions. Atropine should not be given to a cyanosed patient. Monitor respiratory, cardiac and central nervous system functions. Monitor red blood cell and plasma cholinesterase levels. Administer oxygen if necessary. Watch for pulmonary oedema and delayed neurological symptoms. Contraindications include oximes (pralidoxime, oblidoxime), succinyl chloride and aminophylline.</p> <p>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>

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4. FIRST AID MEASURES - continued

Overdoses of atropine have to be strictly avoided, as these can promote heart rhythm disturbances (torsades des pointes).

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.

Veterinary

Dogs find this bait attractive and if ingested it may kill them. If a dog eats pellets take it to a veterinarian immediately.

NB. Ipecac Syrup is not an effective emetic for dogs and is not recommended.

5. FIRE FIGHTING MEASURES

Extinguishing media Water spray, foam, dry chemical, carbon dioxide, sand.

Hazards from combustion products In a fire, hydrogen cyanide, carbon monoxide, methyl isocyanate, sulphur dioxide and nitrogen oxides may be formed.

Precautions for fire fighters Fire fighters 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. 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.

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6. ACCIDENTAL RELEASE MEASURES

Dealing with spills and disposals may result in the potential for increased personal exposure. Protective clothing and equipment as described in the PERSONAL PROTECTION section should be worn. Avoid contact with spilled material or contaminated surfaces. Keep people and animals away. Prevent spilled material from entering drains or watercourses. Contain spill and sweep up carefully. Avoid creating dust. Collect and store in recovery drums. Clean floor with a damp cloth and place it in the recovery drum. Seal and label 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

Handling	Keep out of reach of children. Product is poisonous if swallowed. Avoid contact with eyes and skin. 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 filling applicator, clean up and contain spilled pellets so that they are not eaten by animals and birds.
Storage	Store in the closed, original container in a dry, cool, well-ventilated, secure area out of direct sunlight. Lock in a safe place preventing access of children, animals, poultry or ducks. Keep away from domestic pets.
Flammability	Not readily combustible.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure standards	There is no NOHSC Exposure standard for methiocarb. NOHSC Exposure standard for calcium sulphate: TWA: 10 mg/m ³ (as inspirable dust) <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.
Biological limit values	None allocated. However, monitoring of manufacturing workers for blood cholinesterase levels is recommended.
Engineering controls	Control process conditions to avoid contact. Use local exhaust ventilation during manufacture. Use this product in a well-ventilated area only.
Personal Protective Equipment	Product is poisonous if absorbed by skin contact, inhaled or swallowed. <ul style="list-style-type: none">• During manufacture a respirator or hood with an independent air supply should be worn. If dust is formed in handling the bait pellets, a disposable dust mask should be worn.• Wear goggles.• Wear cotton overalls buttoned to the neck and wrist.• Wear elbow-length PVC gloves if there is a possibility of skin contact.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Blue pellets
Odour:	Weak characteristic
pH:	5.5 to 6.5 (10% in water)
Vapour pressure:	0.015 mPa at 20° C (methiocarb)
Vapour density:	Not available
Boiling point:	Not applicable
Freezing/melting point:	119° C (methiocarb)
Solubility:	The bait pellets swell in water. Methiocarb is practically insoluble in water.
Bulk Density:	164 (loose) / 148 (packed) mL/100 g
Flash Point:	Not applicable
Flammability (explosive) limits:	Not available
Auto-ignition temperature:	Not available
Partition coefficient (octanol/water):	Methiocarb: Log P _{ow} = 3.08 at 20° C

10. STABILITY AND REACTIVITY

Chemical stability	Stable under normal conditions of use. Unstable in highly alkaline media.
Conditions to avoid	Extreme heat, moisture
Incompatible materials	Oxidising agents, alkalis
Hazardous decomposition products	In a fire, hydrogen cyanide, carbon monoxide, methyl isocyanate, sulphur dioxide and nitrogen oxides may be formed.
Hazardous reactions	None known

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11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

Methiocarb, the active ingredient in Baysol Snail and Slug Bait, is a carbamate pesticide which is a cholinesterase inhibitor. 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. These symptoms commence from one to three hours after excessive exposure.

Dogs find this bait attractive and if ingested it may kill them.

Inhalation	Methiocarb is very poisonous by inhalation. Inhalation of the bait pellets containing 2% methiocarb is unlikely, unless dust is created.
Skin contact	Poisonous if absorbed by skin contact, but this route of exposure is unlikely. Not expected to irritate the skin.
Eye contact	May irritate the eyes.
Ingestion	Harmful if swallowed.

ANIMAL TOXICITY DATA - *PRODUCT*

Acute:

Oral toxicity	LD ₅₀ rat: > 500 to < 1000 mg/kg
Dermal toxicity	LD ₅₀ rat: > 2000 mg/kg
Inhalation toxicity	LC ₅₀ (4 h) rat: > 0.224 mg/L – <i>dustable powder – highest producible concentration</i>
Skin irritation	Non irritant (rabbit)
Irritation to mucous membranes	Non irritant (rabbit)
Sensitisation	Not a skin sensitiser.

Chronic:

The main health effects from repeated exposure would be toxic symptoms of cholinesterase inhibition as described above. Methiocarb showed no evidence of oncogenic or carcinogenic potential in animal studies. Methiocarb is not mutagenic, and has shown no teratogenic effects in animal studies. It does not cause delayed neurotoxicity. In the USA methiocarb is considered to be a developmental toxicant.

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12. ECOLOGICAL INFORMATION

Harmful to aquatic organisms. This product is dangerous to game, wild birds and animals. Methiocarb has a repellent effect on birds. It is dangerous to bees and dangerous to fish. DO NOT contaminate streams, rivers or waterways with Baysol Snail and Slug Bait or the used containers.

Ecotoxicity

Methiocarb:

Fish toxicity:

LC₅₀: 0.65 mg/L (96 h); bluegill sunfish (*Lepomis macrochirus*)

LC₅₀: 1.1 mg/L (96 h); trout (*Oncorhynchus mykiss*)

Aquatic invertebrate toxicity:

EC₅₀: 7.7 µg/L (48 h); water flea (*Daphnia magna*)

Algae toxicity:

Growth rate:

IC₅₀: 2.2 mg/L (72 h); green algae (*Scenedesmus subspicatus*)

Bird toxicity:

LD₅₀: 5 to 10 mg/kg; Japanese quail

LD₅₀: 7.1 to 9.4 mg/kg; male mallard ducks

Environmental fate, persistence, degradability, mobility

Degradation of methiocarb in soil is rapid. Photodegradation contributes to the overall elimination of methiocarb from the environment - DT₅₀ = 6 to 16 days.

13. DISPOSAL CONSIDERATIONS

Ensure container is completely empty before disposal. Dispose of empty container by wrapping in paper, placing in plastic bag and putting in household garbage.

14. TRANSPORT INFORMATION

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

15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Act 1988
Australian Pesticides and Veterinary Medicines Authority Approval Number: 51851

See also Section 2.

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16. OTHER INFORMATION

**Trademark
information**

Baysol® is a Registered Trademark of Bayer.

**Preparation
information**

Replaces October 29th, 2004 MSDS.

Reasons for revision: First aid – Notes to physician; APVMA Approval No.; Heading numbering

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