

MATERIAL SAFETY DATA SHEET



Date of Issue: August 26th 2010

1. IDENTIFICATION OF MATERIAL AND SUPPLIER

Product name Mesurol® Snail and Slug Bait
Other names None
Product code and pack sizes 4953559 (10 kg)
4953575 (150 kg)
Chemical group Carbamate
Recommended use Molluscicide
Formulation Ready to use bait (RB)
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 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) – DANGEROUS GOOD
Cholinesterase inhibitor. Very Toxic 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 See Section 14.
SUSDP classification (Poisons Schedule) 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 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	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 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.
Medical attention	Mesurool Snail and Slug Bait contains methiocarb, which is a carbamate insecticide, and as such it is a cholinesterase inhibitor. <u>Symptoms of poisoning</u> 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. Onset of symptoms may be delayed. Cholinesterase inhibition sometimes persists for several weeks. <u>Treatment</u> Basic aid, decontamination, symptomatic treatment and if necessary administration of antidote. Antidote: Atropine sulphate. Atropine should not be given to a cyanosed patient. Oximes are contraindicated. 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. <u>Contraindications</u> Adrenergic derivatives. Never give patient morphine, theophylline or theophylline-ethylenediamine. Large amounts of intravenous fluids are generally contraindicated because of the threat of pulmonary oedema.
Veterinary	Dogs find this bait attractive and if ingested it may kill them. If a dog eats pellets take it to a veterinarian immediately. Do not give dogs Ipecac Syrup.

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5. FIRE FIGHTING MEASURES

Extinguishing media	Waterspray, 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.
Hazchem code	2Z

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. 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 each day's use, wash gloves and contaminated clothing. After filling applicator, clean up 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. The National Occupational Health and Safety Commission (NOHSC) exposure standards: TWA calcium sulphate: 10 mg/m ³ (as inspirable dust) TWA butylated hydroxy toluene: 10 mg/m ³ .
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Definitions:

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

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION - continued

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 and a washable hat.• Wear elbow-length PVC gloves if there is a possibility of skin contact.

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 Mesurol 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.

12. ECOLOGICAL INFORMATION

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

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12. ECOLOGICAL INFORMATION - continued

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 plastic bag is completely empty before disposal. Puncture and bury empty bag in a local authority landfill. If no landfill is available, bury the bag below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty bags and product should not be burnt. Dispose of waste product via a reputable disposal contractor to an approved landfill. Do not discharge into drains or sewers.

14. TRANSPORT INFORMATION

UN number	UN 3077
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (contains methiocarb)
Class and Subsidiary Risk	Class 9
Packing Group	Packing Group III
Hazchem code	2Z
Marine Pollutant	Yes
Note for Road and Rail Transport	According to AU01, Environmentally Hazardous Substances in packagings, IBCs or any other receptacle not exceeding 500 kg or 500 L are not subject to the ADG Code

15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994
Australian Pesticides and Veterinary Medicines Authority approval number: 33274

See also Section 2.

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Bayer CropScience

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16. OTHER INFORMATION

Trademark information MesuroI® is a Registered Trademark of Bayer.

Preparation information Replaces August 18th 2010 edition.
Reasons for revision: Hazard identification, Fire fighting 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