Safety Data Sheet

Mesurol® Snail and Slug Bait

Version 1 / AUS
102000007387

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SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Trade name	Mesurol® Snail and Slug Bait
Product code (UVP)	04981995

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use	Molluscicide, Insecticide

1.3 Details of the supplier of the safety data sheet

Supplier	Bayer Cropscience Pty Ltd ABN 87 000 226 022 Level 1, 8 Redfern Road 3123 Hawthorn East Victoria Australia
Telephone	(03) 9248 6888
Telefax	(03) 9248 6800
Responsible Department	1800 804 479 Technical Information Service
Website	www.crop.bayer.com.au

1.4 Emergency telephone no.

Emergency telephone no.	1800 033 111 IXOM Operations Pty Ltd

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification in accordance with Australian GHS Regulation

Acute toxicity: Category 4
H302 Harmful if swallowed.

Acute aquatic toxicity: Category 1
H400 Very toxic to aquatic life.

Chronic aquatic toxicity: Category 1
H410 Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Hazard label for supply/use required.

Hazardous components which must be listed on the label:

Methiocarb

Signal word: Warning

Hazard statements

H302 Harmful if swallowed.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P301 + P312	IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.
P330	Rinse mouth.
P501	Dispose of contents/container in accordance with local regulation.

2.3 Other hazards

No other hazards known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature

Methiocarb 20g/kg. This product contains a bittering agent / taste deterrent designed to prevent animals eating the bait pellets.
Bait (ready for use) (RB)

Chemical name	CAS-No.	Concentration [%]
Methiocarb	2032-65-7	2.00
Calcium sulfate	7778-18-9	7.50
2,6-Di-tert-butyl-4-methylphenol	128-37-0	>= 0.10 - <= 0.25
Other ingredients (non-hazardous) to 100%		

SECTION 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 Safety Data Sheet to the doctor.

4.1 Description of first aid measures

General advice
If poisoning is suspected in animals, contact a veterinarian.

Move out of dangerous area. Place and transport victim in stable position (lying sideways). Remove contaminated clothing immediately and dispose of safely.

Inhalation
When inhaled remove to fresh air and seek medical aid. Oxygen or artificial respiration if needed.

Skin contact
Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water.

Eye contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.

Ingestion
Rinse mouth. Do NOT induce vomiting. Call a physician or poison control center immediately.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	Temporary blurred vision due to contraction of the pupils (miosis) following contact with the eyes. Bradycardia, Low blood pressure, Salivation, Bronchial hypersecretion, Vomiting, Diarrhoea, Sweating, Muscular fasciculation, Spasm, Breathing difficulties, Respiratory paralysis, Somnolence, Coma, Respiratory failure, Hypothermia, Convulsions, Nausea

4.3 Indication of any immediate medical attention and special treatment needed

Risks	This product is a cholinesterase inhibitor carbamate.
Treatment	Monitor: Respiratory, cardiac and central nervous system. Monitor: Blood picture. Monitor: Red blood cell and plasma cholinesterase. ECG - monitoring (Electrocardiogram). Oxygen or artificial respiration if needed. Keep respiratory tract clear. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. The following antidote is generally accepted: atropine. Before antidote is administered, either clear symptoms of poisoning have to be present or the cholinesterase activity is inhibited to below 30% of normal. In case of convulsions, a benzodiazepine (e.g. diazepam) should be given according to standard regimens. Contraindications: oximes (pralidoxime, obidoxime).

SECTION 5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable	Water spray, Foam, Sand, Carbon dioxide (CO2)
5.2 Special hazards arising from the substance or mixture	In the event of fire the following may be released: Cyanides, Carbon monoxide (CO), Methyl isocyanate, Sulphur dioxide (SO2), Nitrogen oxides (NOx)

5.3 Advice for firefighters

Special protective equipment for firefighters	Wear self-contained breathing apparatus and protective suit.
Further information	Evacuate personnel to safe areas. Avoid contact with spilled product or contaminated surfaces. Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat. Whenever possible, contain fire-fighting water by diking area with sand or earth. Do not allow run-off from fire fighting to enter drains or water courses. Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.
Hazchem Code	2Z

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Precautions Avoid contact with spilled product or contaminated surfaces. When dealing with a spillage do not eat, drink or smoke. Keep unauthorized people away. Use personal protective equipment. Remove all sources of ignition. Avoid dust formation. Do not breathe dust.

6.2 Environmental precautions Do not allow to get into surface water, drains and ground water. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.

6.4 Reference to other sections Information regarding safe handling, see section 7.
Information regarding personal protective equipment, see section 8.
Information regarding waste disposal, see section 13.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling Use only in area provided with appropriate exhaust ventilation.

Hygiene measures Avoid contact with skin, eyes and clothing. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. Remove and wash contaminated gloves, including the inside, before re-use.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers Keep out of reach of children and animals. Store in original container. Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Keep away from direct sunlight.

Advice on common storage Keep away from food, drink and animal feedingstuffs.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Methiocarb	2032-65-7	0.14 mg/m3 (TWA)		OES BCS*
Calcium sulfate (Inhalable dust.)	7778-18-9	10 mg/m3 (TWA)	12 2011	AU NOEL

2,6-Di-tert-butyl-4-methylphenol	128-37-0	10 mg/m3 (TWA)	12 2011	AU NOEL
2,6-Di-tert-butyl-4-methylphenol	128-37-0	2 mg/m3 (TLV)		OES BCS*

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

8.2 Exposure controls

Respiratory protection

Respiratory protection is not required under anticipated circumstances of exposure.
Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.

Hand protection

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Wash gloves when contaminated. Dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet.

Material	Nitrile rubber
Rate of permeability	> 480 min
Glove thickness	0.4 mm
Protective index	Class 6
Directive	Protective gloves complying with EN 374.

Eye protection

Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).

Skin and body protection

Wear standard coveralls and Category 3 Type 5 suit.
If there is a risk of significant exposure, consider a higher protective type suit.
Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently.
If chemical protection suit is splashed, sprayed or significantly contaminated, decontaminate as far as possible, then carefully remove and dispose of as advised by manufacturer.

General protective measures

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the above mentioned recommendations would apply.

Engineering Controls

Advice on safe handling

Use only in area provided with appropriate exhaust ventilation.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form	pellets
Colour	blue
Odour	weak, characteristic
pH	5.5 - 6.5 at 10 % (23 °C) (deionized water)
Water solubility	at 20 °C insoluble, only capable of swelling
Partition coefficient: n-octanol/water	Methiocarb: log Pow: 3.08 at 20 °C Unbuffered
Impact sensitivity	Not impact sensitive.
Oxidizing properties	No oxidizing properties
Explosivity	Not explosive
9.2 Other information	Further safety related physical-chemical data are not known.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity	
Thermal decomposition	Stable at ambient temperature.
10.2 Chemical stability	Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions	No hazardous reactions known. Stable under normal conditions. Hydrolyses in alkaline medium.
10.4 Conditions to avoid	Exposure to moisture. Extremes of temperature and direct sunlight.
10.5 Incompatible materials	Oxidizing agents, Bases
10.6 Hazardous decomposition products	Thermal decomposition can lead to release of: Hydrogen cyanide (hydrocyanic acid) Carbon monoxide Methyl isocyanate Sulphur oxides Nitrogen oxides (NOx)

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity	LD50 (Rat) > 500 - < 1,000 mg/kg Test conducted with a similar formulation.
Acute inhalation toxicity	LC50 (Rat) > 0.224 mg/l

	Exposure time: 4 h Determined in the form of dust. Highest attainable concentration.
Acute dermal toxicity	LD50 (Rat) > 2,000 mg/kg Test conducted with a similar formulation.
Skin irritation	No skin irritation (Rabbit) Test conducted with a similar formulation.
Eye irritation	No eye irritation (Rabbit) Test conducted with a similar formulation.
Sensitisation	Non-sensitizing (Guinea pig) OECD Test Guideline 406, Buehler test Test conducted with a similar formulation.

Assessment mutagenicity

Methiocarb was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Methiocarb was not carcinogenic in lifetime feeding studies in rats and mice.

Assessment toxicity to reproduction

Methiocarb caused reproduction toxicity in generation studies in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Methiocarb is related to parental toxicity.

Assessment developmental toxicity

Methiocarb caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Methiocarb are related to maternal toxicity.

Assessment STOT Specific target organ toxicity – single exposure

Methiocarb: Based on available data, the classification criteria are not met.

Assessment STOT Specific target organ toxicity – repeated exposure

Methiocarb did not cause specific target organ toxicity in experimental animal studies.

Aspiration hazard

Based on available data, the classification criteria are not met.

Information on likely routes of exposure

Very toxic by inhalation.
Toxic by skin absorption. The product may be absorbed through the skin. May cause skin irritation.
May cause eye irritation.
Harmful if swallowed.

Early onset symptoms related to exposure
Refer to Section 4

Delayed health effects from exposure
Refer to Section 11

Exposure levels and health effects
Refer to Section 4

Interactive effects
Not known

When specific chemical data is not available
Not applicable

Mixture of chemicals
Refer to Section 2.1

Further information

No further toxicological information is available.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish	LC50 (Lepomis macrochirus (Bluegill sunfish)) 0.65 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient methiocarb.
Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) 0.0077 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient methiocarb.
Toxicity to aquatic plants	IC50 (Desmodesmus subspicatus (green algae)) 2.2 mg/l Exposure time: 72 h The value mentioned relates to the active ingredient methiocarb.
Toxicity to other organisms	LD50 (Coturnix japonica (Japanese quail)) 5 - 10 mg/kg The value mentioned relates to the active ingredient methiocarb. LD50 (Anas platyrhynchos (Mallard duck)) 7.1 - 9.4 mg/kg The value mentioned relates to the active ingredient methiocarb.

12.2 Persistence and degradability

Biodegradability	Methiocarb: Not rapidly biodegradable
Koc	Methiocarb: Koc: 660

12.3 Bioaccumulative potential

Bioaccumulation	Methiocarb: Does not bioaccumulate.

12.4 Mobility in soil

Mobility in soil	Methiocarb: Slightly mobile in soils

12.5 Other adverse effects

Additional ecological information	No other effects to be mentioned.

SECTION 13. DISPOSAL CONSIDERATIONS

Shake empty container onto baiting site. Do not dispose of undiluted chemicals on-site. Break, crush or puncture and bury empty containers in a local authority landfill. If not available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, vegetation and roots.

SECTION 14. TRANSPORT INFORMATION

ADG

UN number	**3077**
Transport hazard class(es)	9
Subsidiary Risk	None
Packaging group	III
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (METHIOCARB MIXTURE)
Hazchem Code	2Z

According to AU01, Environmentally Hazardous Substances in packagings, IBC or any other receptacle not exceeding 500 kg or 500 L are not subject to the ADG Code.

IMDG

UN number	**3077**
Transport hazard class(es)	9
Subsidiary Risk	None
Packaging group	III
Marine pollutant	YES
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (METHIOCARB MIXTURE)

IATA

UN number	**3077**
Transport hazard class(es)	9
Subsidiary Risk	None
Packaging group	III
Environm. Hazardous Mark	YES
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (METHIOCARB MIXTURE)

SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994

Australian Pesticides and Veterinary Medicines Authority approval number: 33274

SUSMP classification (Poison Schedule)

Schedule 5 (Standard for the Uniform Scheduling of Medicines and Poisons)

SECTION 16. OTHER INFORMATION

Trademark information Mesurol® is a Registered Trademark of the Bayer Group.

Abbreviations and acronyms

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute toxicity estimate
AU OEL	Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)
CAS-Nr.	Chemical Abstracts Service number
CEILING	Ceiling Limit Value
Conc.	Concentration
EC-No.	European community number
ECx	Effective concentration to x %
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
EN	European Standard
EU	European Union
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)
ICx	Inhibition concentration to x %
IMDG	International Maritime Dangerous Goods
LCx	Lethal concentration to x %
LDx	Lethal dose to x %
LOEC/LOEL	Lowest observed effect concentration/level
MARPOL	MARPOL: International Convention for the prevention of marine pollution from ships
N.O.S.	Not otherwise specified
NOEC/NOEL	No observed effect concentration/level
OECD	Organization for Economic Co-operation and Development
OES BCS	OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"
PEAK	PEAK: Exposure Standard - Peak means a maximum or peak airborne concentration of a particular substance determined over the shortest analytically practicable period of time which does not exceed 15 minutes.
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SK-SEN	Skin sensitiser
SKIN_DES	SKIN_DES: Skin notation: Absorption through the skin may be a significant source of exposure.
STEL	STEL: Exposure standard - short term exposure limit (STEL): 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.
TWA	TWA: 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.
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

This SDS 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 SDS 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.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.