



MESUROL® 200 SC

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1. Identification of the Substance/Mixture and Supplier.

Product name: Mesurol 200 SC

Recommended Use: For repelling birds from crops.

Company details: Bayer New Zealand Limited,
3 Argus Place,
Hillcrest, Auckland 0627
New Zealand

Telephone: 0800 428 246

Facsimile: 09 441 8645

Emergency telephone: 0800 734 607 Orica SH&E Shared services (24hr)

2. Hazards Identification.

Classification and type: **HSNO Class***
6.1D, 6.9B, 9.1A, 9.2A, 9.3A, 9.4A
Toxic – may be harmful if swallowed.
Harmful – presumed to/may cause organ damage from repeated oral exposure at high doses.
Very toxic to aquatic organisms – must not be applied directly onto or into water.
Very toxic to the soil environment.
Very toxic to terrestrial vertebrates.
Very toxic to terrestrial invertebrates.

3. Composition/Information on Ingredients.

Chemical nature: Suspension concentrate (=flowable concentrate) (SC)
Methiocarb 200 g/L

Ingredient	CAS No.	Concentration (%)
Methiocarb	2032-65-7 217-991-2	22.62
Citric acid	77-92-9 201-069-1	> 1.00 - < 20.00
Ethoxylated polyarylphenol	99734-09-5	> 1.00 - < 25.00
Glycerine	56-81-5 200-289-5	> 1.00



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4. First Aid Measures:

General advice:	Move out of dangerous area. Place and transport victim in stable position (lying sideways). Remove contaminated clothing immediately and dispose of safely. When possible, have the product container or label with you when calling a poison control centre or doctor or going for treatment.
Inhalation:	Move to fresh air. Keep patient warm and at rest. If person is not breathing, give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or the National Poisons Centre 0800 POISON (0800 764 766) immediately.
Skin contact:	Take off contaminated clothing and shoes immediately. Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, and subsequently rinse with water.
Eye contact:	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.
Ingestion:	Call a physician or the National Poisons Centre 0800 POISON (0800 764 766) immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control centre. Never give anything by mouth to an unconscious person. Do not leave victim unattended.
Most important symptoms and effects:	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.
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.

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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).

Further information:

Contact the National Poisons and Hazardous Chemicals Information centre in Dunedin, PO Box 913, Dunedin. Phone 0800 POISON (0800 764 766).

5. Fire-Fighting Measures.

Suitable extinguishing media: Water spray, carbon dioxide (CO₂), foam, sand.

Fire Hazard Properties: In the event of fire, the following may be released:
 Hydrogen cyanide (hydrocyanic acid)
 Carbon monoxide (CO)
 Methyl isocyanate
 Sulphur oxides
 Nitrogen oxides (NO_x)

Recommended Protective clothing: In case of fire and/or explosion, do not breathe fumes.
 In the event of fire, wear self-contained breathing apparatus and full protective clothing.

Further information: Contain the spread of the fire-fighting media.
 Do not allow run-off from fire-fighting to enter drains or water courses.

6. Accidental Release Measures.

Personal Precautions: Avoid contact with spilled product or contaminated surfaces.
 Use personal protective equipment.

Environmental Precautions: Do not allow to get into surface water, drains and ground water.

Methods for cleaning up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
 Clean contaminated floors and objects thoroughly, observing environmental regulations.
 Keep in suitable, closed containers for disposal.



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Additional advice: Information regarding safe handling: see section 7.
Information regarding personal protective equipment: see section 8.
Information regarding waste disposal, see section 13.

7. Handling and Storage.

Handling: Advice on safe handling
Avoid contact with skin, eyes and clothing. Handle and open container in a manner as to prevent spillage. Use only in areas provided with appropriate exhaust ventilation.

Hygiene measures
Keep working clothes separately.
Wash hands immediately after work, if necessary take a shower.
Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be destroyed (burnt).

Storage: Requirements for storage areas and containers
Store in original container.
Keep containers tightly closed in a dry, cool and well-ventilated place.
Store in a place accessible by authorized persons only.
Keep away from direct sunlight.
Keep away from food, drink and animal feedingstuffs.

8. Exposure Control/Personal Protection**Components with workplace control parameters**

Component	CAS No.	Control Parameters	Update	Basis
Methiocarb	2032-65-7	0.42 mg/m ³ (TWA)		OES BCS*

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

Personal protect equipment:

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

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Respiratory protection:	No personal respiratory protective equipment normally required. 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:	Wear CE Marked (or equivalent) nitrile rubber gloves (minimum thickness 0.40 mm). Wash when contaminated. Dispose of when contaminated inside, when perforated or when contamination outside cannot be removed. Wash hands always before eating, drinking, smoking or using the toilet.
Eye protection:	Wear goggles conforming to EN166 (Field of Use 5 or equivalent).
Skin and body protection:	Wear standard coverall and type 6 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.
Protective measures:	Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water. Keep and wash PPE separately from other laundry.

9. Physical and Chemical Properties

Form:	Suspension
Colour:	White
Odour:	Weak, characteristic
pH:	4.0 – 4.8 at 100% (23 °C)
Flash point:	> 100 °C No flash point – determination conducted up to the boiling point.

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Ignition temperature:	> 580 °C
Density:	Ca. 1.11 g/cm ³ at 20 °C
Water solubility:	Miscible
Viscosity, dynamic:	500 – 900 mPa.s Velocity gradient 7.5 /s
	300 – 470 mPa.s Velocity gradient 20 /s
	100 – 180 mPa.s Velocity gradient 100 /s
Surface tension:	44.9 mN/m at 20 °C Determined as a 0.1% solution in distilled water (1 g/L).
Oxidizing properties:	No oxidizing properties
Explosivity:	Not explosive 92/69/EEC, A.14 / OECD 113
Other information:	Further safety related physical-chemical data are not known.

10. Stability and Reactivity

Reactivity:	Stable under normal conditions.
Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions:	No dangerous reaction known under conditions of normal use.
Conditions to avoid:	Extremes of temperature and direct sunlight.
Incompatible materials:	Store only in the original container.
Hazardous decomposition products:	No decomposition products expected under normal conditions of use.



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11. Toxicological Information

Information on toxicological effects:

Acute oral toxicity:	LD50 (rat) > 300 mg/kg
Acute inhalation toxicity:	LC50 (rat) > 1.571 mg/L Exposure time: 4 h Determined in the form of a respirable aerosol. Test conducted with a similar formulation.
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.
Sensitization:	Non-sensitizing (mouse) OECD Test Guideline 429, local lymph node assay (LLNA) Test conducted with a similar formulation.
Assessment repeated dose toxicity:	Methiocarb did not cause specific target organ toxicity in experimental animal studies.
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.



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5. Ecological Information.

Toxicity to fish:	LC50 (<i>Lepomis macrochirus</i> (Bluegill sunfish)) 0.65 mg/L Exposure time: 96 h. The value mentioned relates to the active ingredient.
Toxicity to aquatic invertebrates:	EC50 (Water flea (<i>Daphnia magna</i>)) 0.0434 mg /L Exposure time: 48 h
Toxicity to aquatic plants:	IC50 (<i>Desmodemus subspicatus</i>) 2.2 mg/L Growth rate; Exposure time: 72 h The value mentioned relates to the active ingredient.
Biodegradability:	Not applicable for this mixture.
Bioaccumulative potential:	Not applicable for this mixture.
Mobility in soil:	Not applicable for this mixture.
Additional ecological information:	No other effects to be mentioned.

13. Disposal Considerations.

Product Disposal:	Dispose of this product only by using according to the label, or at an approved landfill or other approved facility.
Container Disposal:	Triple rinse containers. Recycle if possible. If allowed under local authority, burn if circumstances, especially wind direction permit, otherwise crush and bury in an approved local authority facility. Do not use container for any other purpose.

14. Transportation Information.

Rail/Road (RID/ADR):	UN 3082 Environmentally Hazardous Substance, Liquid, N.O.S. (Methiocarb Solution), Class 9, Packing Group III, Hazchem Code 3Z.
Sea (IMDG-Code):	UN 3082 Environmentally Hazardous Substance, Liquid, N.O.S. (Methiocarb Solution), Class 9, Packing Group III, Hazchem Code 3Z.



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Air (ICAO/IATA):

UN 3082 Environmentally Hazardous Substance, Liquid, N.O.S. (Methiocarb Solution), Class 9, Packing Group III, Hazchem Code 3Z.

15. Regulatory Information.

HSNO Approval Number: HSR100895

HSNO Controls (inc. Tracking): See www.epa.govt.nz for controls.

Approved Handlers required: This product must be under control of an approved handler when applied in a wide dispersive manner or used by a commercial contractor.

ACVM Registration: Not applicable

ACVM Controls: Not applicable

16. Other Information.

6.1D Toxic – may be harmful if swallowed.

6.9B Harmful – presumed to/may cause organ damage from repeated oral exposure at high doses.

9.1A Very toxic to aquatic organisms – must not be applied directly onto or into water.

9.2A Very toxic to the soil environment.

9.3A Very toxic to terrestrial vertebrates.

9.4A Very toxic to terrestrial invertebrates.

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The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe products in terms of their safety requirements. The above details do not imply any guarantee concerning composition, properties or performance of the product.