

MATERIAL SAFETY DATA SHEET



Page: 1 of 5
Date of Issue: August 1, 2002

STATEMENT OF HAZARDOUS NATURE

Not classified as hazardous according to criteria of National Occupational Health and Safety Commission.

COMPANY DETAILS:

Company: Bayer CropScience Pty Ltd A.B.N. 87 000 226 022
Address: 391 - 393 Tooronga Road, East Hawthorn, Victoria 3123
Australia
Telephone/Facsimile: (03) 9248 6888/(03) 9248 6800
Website Address: www.bayercropscience.com.au
Emergency Telephone Number: 1800 033 111 – SHE Pacific

IDENTIFICATION

Product Name:	Brodal® Options Selective Herbicide
Other Names:	None assigned
Manufacturer's Product Code:	Not available
SAP Product Code:	Not available
UN Number:	Not applicable
Dangerous Goods Class and Subsidiary Risk:	Not classified as Dangerous Goods for transport by road or rail
Hazchem Code:	Not applicable
Proper Shipping Name:	Not applicable
Packing Group:	Not applicable
EPG:	Not applicable
Chemical Family:	Nicotinanilide
Poisons Schedule Number:	Exempt from scheduling
Use:	Agricultural herbicide

Physical Description/Properties

Appearance:	A viscous, light brown liquid suspension
Boiling Point:	Greater than 100°C
Vapour Pressure:	Not determined
Specific Gravity:	1.175 at 20°C
Flashpoint:	Non flammable
Flammability Limits:	Not determined
Solubility in Water:	Miscible (active ingredient is insoluble)

Other Properties:

pH:	8.2
Formulation	Suspension concentrate

Ingredients:

Chemical Name:	CAS Number:	Proportion g/L:
Diflufenican	[83164-33-4]	500
Other ingredients including water	(non hazardous)	675

BRODAL OPTIONS SELECTIVE HERBICIDE

MATERIAL SAFETY DATA SHEET



Page: 2 of 5
Date of Issue: August 1, 2002

HEALTH HAZARD INFORMATION

Health Effects:

Acute:

Swallowed: This product has a low acute oral toxicity, but may be harmful if a large amount is swallowed.

Eye: Mild eye irritant.

Skin: Not a skin irritant. Studies indicate that this product is not a sensitising agent.

Inhaled: May irritate mucous membranes of nose and mouth.

Chronic: Long term studies on rats, mice and dogs showed no carcinogenic teratogenic or oncogenic potential for diflufenican. Diflufenican was not mutagenic. The no observable effect level listed by the Therapeutic Goods Administration for diflufenican is 16.3 mg/kg bw/day.

First Aid: **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.**

Swallowed: Wash out mouth with water. Do not induce vomiting. Keep patient at rest and seek medical advice as above. DO NOT attempt to give anything by mouth to a semi-conscious or unconscious person.

Eye: Rinse immediately with clean water for at least 15 minutes and obtain medical aid.

Skin: Carefully remove contaminated clothing. Wash affected areas with soap and water. Seek medical aid if at all worried.

Inhaled: Remove victim to fresh air and keep at rest. Obtain medical advice if at all worried.

First Aid Facilities: Ensure washing facilities are available.

Advice to Doctor: No specific antidote known. Treatment should be symptomatic and supportive after decontamination. In case of skin or eye contamination, treat as above under "First Aid". Recovery is expected to be spontaneous.

MATERIAL SAFETY DATA SHEET



Page: 3 of 5
Date of Issue: August 1, 2002

PRECAUTIONS FOR USE

- Exposure Standards: PEL (Permissible Exposure Level) for diflufenican recommended by Bayer CropScience is 2.3 mg/m³.
- Engineering Controls: Control process conditions to avoid contact. Use only in a well-ventilated area.
- Personal Protection: This product has a low toxicity, but if exposure to a large amount is likely, the following protection is recommended:
Eyes: Wear glasses or goggles.
Clothing: Wear long-sleeved overalls.
Gloves: Wear elbow length PVC gloves.
Respiratory: Not normally required. Wear an organic cartridge respirator if inhalation of spray is possible.
- Other: Always wash hands after use.
- Flammability: Non flammable.

SAFE HANDLING INFORMATION

Storage and Transport:

Corrosivity Hazards: Not corrosive

Handling & Storage Precautions: Keep out of reach of children. Avoid contact with the eyes and skin. Store in the closed original container in a dry, cool, well-ventilated area, out of direct sunlight. Store in locked room or place away from children, animals, food, animal feed, seed and fertilisers. Protect from frost.

Transport: The product is not classified as a Dangerous Good under the Australian Code for the Transport of Dangerous Goods by Road and Rail.

Spills and Disposal:

Spillage or Leak Procedures: Avoid contact with spilled material or contaminated surfaces. During the clean up operation it is recommended that protective clothing and equipment be worn – See Personal Protection section above. Contain spill and absorb with earth, sand, clay or other absorbent material and store in properly labelled, sealed drums for safe disposal. DO NOT burn empty containers or product. Deal with all spillages immediately. If contamination of drains, streams, watercourses etc. is unavoidable, warn the local water authority. Neutralising chemicals are not needed.

MATERIAL SAFETY DATA SHEET



Page: 4 of 5
Date of Issue: August 1, 2002

SAFE HANDLING INFORMATION - continued

Waste Disposal Methods: Triple (or preferably) pressure rinse containers before disposal. Add rinsings to the 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 via a licensed disposal contractor to an approved landfill.

Fire/Explosion Hazard:

Extinguishing Media: Water, foam, dry agent, carbon dioxide

Special Fire Fighting Procedures: Full protective gear, including self-contained breathing apparatus (AS/NZS 1716) must be worn. Do not release contaminated water into the environment. Keep intact containers cool by spraying with water.

Reactivity Hazards: Stable under normal conditions of use. Avoid extreme heat and fire. Oxides of carbon and nitrogen, and compounds of fluorine including hydrofluoric acid may be formed in a fire.

OTHER INFORMATION:

Toxicology (diflufenican):	Oral LD ₅₀ (mg/kg)	> 2,000	Species	Rat
	Dermal LD ₅₀ (mg/kg)	> 2,000	Species:	Rat
	Inhalation LC ₅₀ (mg/L)	> 2.34 (4 h)	Species:	Rat
	Eye irritation	Non irritant	Species:	Rabbit
	Skin irritation	Non irritant	Species:	Rabbit
	Sensitisation	Not a sensitiser	Species:	Guinea pig

Environmental / Ecological Effects: Harmful to aquatic life. Non-toxic to bees and earthworms.
Fish toxicity:
LC₅₀ (96 h) (technical diflufenican) for rainbow trout 75 mg/L; for carp 105 mg/L.
Bird toxicity:
Acute oral LD₅₀ (technical diflufenican) for quail > 2,150 mg/kg; for mallard ducks > 4,000 mg/kg.

DO NOT contaminate streams, rivers or waterways with the chemical or used containers.

MATERIAL SAFETY DATA SHEET



Page: 5 of 5
Date of Issue: August 1, 2002

Special Precautions / None
Comments:

Data Sources / Bayer CropScience Pty Ltd product safety data and published data
References:

CONTACT POINT:

Emergency Contact Number: 1800 033 111 (SHE Pacific)
Development Manager: (03) 9248 6888

This MSDS summarizes 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.

Brodal[®] is a registered Trademark of Bayer.