

MATERIAL SAFETY DATA SHEET



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STATEMENT OF HAZARDOUS NATURE

Hazardous according to criteria of National Occupational Health and Safety Commission.
R21/22 - Harmful in contact with skin and if swallowed
R36/38 - Irritating to eyes and skin
R63 – Possible risk of harm to the unborn child

COMPANY DETAILS:

Company: Bayer CropScience Pty Ltd ABN 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 – Orica SH&E Shared Services

IDENTIFICATION

Product Name:	Jaguar® Selective Herbicide
Other Names:	None assigned
Manufacturer's Product Code:	Not available
SAP Product Code:	16965 (5 L), 16988 (20 L)
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:	Benzonitrile + nicotinanilide
Poisons Schedule Number:	6
Use:	For use as an agricultural herbicide

Physical Description/Properties

Appearance:	Clear yellow to dark brown liquid with distinctive strong ester odour
Boiling Point/Melting Point:	Not determined
Vapour Pressure:	1.9 x 10 ⁻¹ mPa (bromoxynil octanoate) at 25° C 4.25 x 10 ⁻³ mPa (diflufenican) at 25° C
Density:	1.078 g/mL at 20° C
Flash Point:	66° C
Flammability Limits:	Not determined
Solubility in Water:	Miscible
Formulation:	Emulsifiable concentrate

JAGUAR SELECTIVE HERBICIDE

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Ingredients:

Chemical Name:	CAS Number:	Proportion g/L:
Bromoxynil octanoate	[1689-99-2]	364 (≡ 250 bromoxynil)
Diflufenican	[83164-33-4]	25
N-Methylpyrrolidone	[872-50-4]	150
Hydrocarbon solvent	[90438-79-2]	408
Other ingredients	(non hazardous)	131

HEALTH HAZARD INFORMATION

Health Effects:

Acute:

Swallowed: Product is harmful if swallowed. Will irritate the throat. Symptoms of poisoning include gastro-intestinal irritation, narcosis and excessive sweating.

Eye: Will irritate eyes.

Skin: Harmful in contact with skin. Will irritate skin.

Inhaled: Product is harmful if inhaled. Will irritate nose and throat.

Chronic:

The no effect level for bromoxynil octanoate has been determined to be 0.3 mg/kg bw/day by the Therapeutic Goods Administration. Bromoxynil is a suspected teratogen - the compound produced birth defects in rats at oral doses above 35 mg/kg. Toxic effects included abnormal rib formation and reduced foetal weight. Newborn rabbits had birth defects when bromoxynil was administered to pregnant mothers at doses above 30 mg/kg. In the rabbit, birth defects included changes in bone formation in the skull and hydrocephaly. Bromoxynil octanoate is not carcinogenic or mutagenic. The no observable effect level listed by the Therapeutic Goods Administration for diflufenican is 16.3 mg/kg bw/day. Diflufenican is not mutagenic, teratogenic or oncogenic.

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.

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

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at all worried.

First Aid Facilities: Ensure washing facilities are available.

Advice to Doctor : Bromoxynil octanoate is a phosphorylation uncoupler with a high acute oral toxicity. Symptoms of systemic poisoning with bromoxynil include nausea, vomiting, hyperventilation, sweating and salivation. There are reports of hyperthermia and convulsions, probably due to phosphorylation uncoupling. As this product contains a hydrocarbon solvent, care should be taken to prevent pulmonary aspiration. Small amounts of liquid aspirated into the respiratory system during ingestion or from vomiting may cause bronchopneumonia or pulmonary oedema. Initial treatment should be symptomatic and supportive. In the event of a large amount (more than one mouthful) being ingested, the following measures should be considered: Carry out gastric lavage, charcoal administration and endotracheal intubation. Monitor respiratory, cardiac and central nervous system functions with particular reference to fluid balance and level of unconsciousness. Phenobarbitone or diazepam i.v. or i.m. may be used as anticonvulsant therapy for bromoxynil poisoning, as appropriate. Antipyretics such as Aspirin are not suitable and could even increase hyperthermia. It is essential to cool the person down and to maintain complete rest. There is no specific antidote. Recovery is normally spontaneous.

PRECAUTIONS FOR USE

Exposure Standards: PEL (Permissible Exposure Level) for diflufenican recommended by Bayer CropScience is 2.3 mg/m³. No exposure limits have been assigned to the other ingredients in Jaguar.

Engineering Controls: Control process conditions to avoid contact. Use only in a well-ventilated area.

Personal Protection: Product is harmful if inhaled or swallowed. Will irritate the eyes, nose, throat and skin. Avoid inhaling spray mist.

Eyes: Safety goggles or face shield.
Clothing: Full-length overalls.
Gloves: Elbow-length PVC gloves.
Respiratory: Do not breathe vapour or spray. Wear a respirator with an organic vapour cartridge if inhalation is likely.
Other: 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, safety goggles or face shield, respirator and contaminated clothing.

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Flammability: Class C1 Combustible liquid – Flash point between 61 and 150° C.

SAFE HANDLING INFORMATION

Storage and Transport:

Corrosivity Hazards: The rubber components present in some spraying units may be affected by exposure to the solvents in Jaguar.

Handling & Storage Precautions:

Keep out of reach of children. Avoid contact with the eyes, skin and clothing and avoid inhalation of product or spray mist. If product in eyes, wash it out immediately with water. After handling and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. 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.

Transport:

The product is not classified as a Dangerous Good under the Australian Code for the Transport of Dangerous Goods by Road and Rail. For shipment by sea it is a Marine Pollutant.

Spills and Disposal:

Spillage or Leak Procedures:

Shut off all possible sources of ignition. DO NOT smoke. Avoid contact with the spilled material or contaminated surfaces. When dealing with spills wear personal protective clothing and equipment as described in the PERSONAL PROTECTION section above. Keep people and animals away and upwind. Contain spill and absorb with earth, sand, clay, or other absorbent material, collect and store in properly labelled, sealed drums for safe disposal. Deal with all spillages immediately. If contamination of drains, streams, watercourses, etc. is unavoidable, warn the local water authority.

Waste Disposal Methods:

When returnable container is empty or contents no longer required return it to the point of purchase. For non-returnable containers, triple or (preferably) pressure rinse them before disposal. Add rinsings to 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.

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SAFE HANDLING INFORMATION – continued

Fire/Explosion Hazard:

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

Special Fire Fighting Procedures: Combustible liquid. Fire fighters should wear full protective gear, including self-contained breathing apparatus (AS/NZS 1715, 1716). Toxic decomposition products may be produced in a fire. Keep unnecessary people away. Bund area to prevent contamination of water sources. Dispose of fire control water and spillage later.

Reactivity Hazards: Stable under normal conditions of use. Avoid extreme heat and fire. Toxic compounds of fluorine and bromine and oxides of carbon and nitrogen may be produced when heated to decomposition.

OTHER INFORMATION:

Acute toxicity data:

(product)	Oral LD ₅₀ (mg/kg)	1113	Species	Rat
	Dermal LD ₅₀ (mg/kg)	> 2000	Species:	Rat
	Eye irritation	Irritating	Species:	Rabbit
	Skin irritation	Non-irritating	Species:	Rabbit
(technical bromoxynil octanoate)	Inhalation LC ₅₀ (mg/L)	0.72 air (4 h)	Species:	Rat
(technical diflufenican)	Inhalation LC ₅₀ (mg/L)	> 2.34 air (4 h)	Species:	Rat

Environmental / Ecological Effects: Low hazard to bees. Dangerous to fish. DO NOT contaminate streams, rivers or waterways with the chemical or used containers.

Bromoxynil octanoate:

LC₅₀ (96 h) rainbow trout 0.041 mg/L

Acute oral LD₅₀ quail 170 mg/kg; mallard duck 2,350 mg/kg

EC₅₀ (48 h) Daphnia 0.06 mg/L

Diflufenican:

LC₅₀ (96 h) rainbow trout 75 mg/L; carp 105 mg/L.

Acute oral LD₅₀ quail > 2,150 mg/kg; mallard duck > 4,000 mg/kg.

Special Precautions / Comments: None

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

CONTACT POINT:

Emergency Contact Number: 1800 033 111 (Orica SH&E Shared Services)
Development Manager: (03) 9248 6888

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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.

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