

MATERIAL SAFETY DATA SHEET



Date of Issue: November 26th, 2009

1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND SUPPLIER

Product name **Hoegrass[®] 500 Selective Herbicide**

Other names None

Product codes and pack sizes 4284622 (20 L), 4317415 (100 L), 6418457 (110 L)

Chemical group Aryloxyphenoxypropionate

Recommended use Agricultural herbicide

Formulation Emulsifiable concentrate

Supplier Bayer CropScience Pty Ltd ABN 87 000 226 022

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2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

HAZARDOUS SUBSTANCE (see Risk phrases below) – NON DANGEROUS GOOD
Combustible liquid. Dangerous to the aquatic environment.

Hazard classification Hazardous (National Occupational Health and Safety Commission – NOHSC)

Risk phrases R36 – Irritating to eyes.
R65 – Harmful: May cause lung damage if swallowed.
R66 – Repeated exposure may cause skin dryness or cracking.

Safety phrases See Sections 4, 5, 6, 7, 8, 10, 12, 13

ADG classification See Section 14.

SUSDP classification Schedule 6 (Standard for the Uniform Scheduling of Drugs and Poisons)

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	CAS Number	Concentration (g/L)
Diclofop-methyl	[51338-27-3]	500
Solvent naphtha (petroleum), heavy aromatic	[64742-94-5]	376
Naphthalene (in hydrocarbon solvent)	[91-20-3]	(37 - 53)
N-methyl-2-pyrrolidone	[872-50-4]	87
Calcium dodecylbenzene sulfonate	[26264-06-2]	34
2-Ethylhexanol	[104-76-7]	23
Other ingredients	(non hazardous)	110

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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 at all worried. If breathing stops or shows signs of failing, start artificial respiration. Call for prompt medical attention.
Skin contact	Carefully remove contaminated clothing. Wash affected areas with soap and water. Seek medical aid if at all worried.
Eye contact	Rinse eyes immediately with clean water for at least 15 minutes and obtain medical aid.
Ingestion	Wash out mouth with water. Do NOT induce vomiting. Give a glass of water. 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.
First Aid Facilities	Provide eyewash and safety shower facilities in the workplace.
Medical attention	<i>Local:</i> Irritation of eyes and respiratory tract. Skin dryness or cracking from repeated exposure. Potential skin sensitisation. <i>Systemic:</i> Headache, dizziness, drowsiness, nausea, confusion, anaesthesia and other central nervous system effects. May cause lung damage if swallowed, with symptoms including cough, tachypnoea (rapid breathing), breathlessness, cyanosis (blueness of the skin) and fever.

Treatment

For *local contamination* treatment should be symptomatic after decontamination. In case of skin or eye contamination, treat as above under First Aid Measures.

Note for physicians

As this product contains a hydrocarbon liquid, 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.

Due to the low oral toxicity, and the risk of aspiration into the lung, gastric lavage is not recommended. In case of ingestion of large amounts, it may be considered after adequate airway protection (intubation with block), as the risk of spontaneous vomiting with aspiration might be higher. Activated charcoal and cathartics (magnesium or sodium) should be given. Treatment should be supportive and symptomatic. Monitor kidney, liver and pancreas function.

Contraindications: Catecholamines should be avoided due to an increased risk of ventricular fibrillation.

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5. FIRE FIGHTING MEASURES

Extinguishing media	Water fog, fine water spray, foam or dry agent.
Hazards from combustion products	In a fire, irritant and toxic fumes containing hydrogen chloride, carbon monoxide and carbon dioxide may be generated.
Precautions for fire fighters	The product is a Class C1 Combustible liquid. Fire-fighters should wear full protective gear, including self-contained breathing apparatus (AS/NZS 1715/1716). Keep unnecessary people away. If it can be done safely, remove intact containers from the fire. Otherwise, use water spray to cool them. Avoid spraying directly into containers due to danger of boilover. 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	Not applicable

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled material or contaminated surfaces. Extinguish or remove possible sources of ignition. When dealing with spills do not eat, drink or smoke and 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 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.

7. HANDLING AND STORAGE

Handling	Keep out of reach of children. Will irritate the eyes and skin. Avoid contact with eyes and skin. Do not inhale vapour. If product in eyes, wash it out immediately with water. When opening the container, preparing spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist and washable hat, elbow length PVC gloves and goggles. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each days use, wash gloves, goggles, and contaminated clothing.
Storage	Store in the closed, original container in a dry, cool, well-ventilated area. Do not store for prolonged periods in direct sunlight. Keep away from all ignition sources.
Flammability	Combustible liquid, Class C1 – flashpoint between 61° C and 150° C.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure standards	The manufacturer of the solvent recommends an Occupational Exposure Limit for solvent naphtha (petroleum), heavy aromatic: TWA: 100 mg/m ³ (15 ppm). For the small amount of naphthalene present in the solvent the NOHSC Occupational Exposure Limits are: TWA: 10 ppm (52 mg/m ³), STEL: 15 ppm (79 mg/m ³). <u>Definitions</u> <i>Exposure standard – Time Weighted Average (TWA)</i> means the average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day working week. <i>Exposure standard – Short term exposure limit (STEL)</i> means a 15 minute TWA exposure which should not be exceeded at any time during the working day.
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8. EXPOSURE CONTROLS / PERSONAL PROTECTION - continued

Biological limit values	None allocated
Engineering controls	Control process conditions to avoid contact. Use local exhaust ventilation during manufacturing operations. Use in a well-ventilated area only.
Personal Protective Equipment	<ul style="list-style-type: none">Wear goggles to protect eyes.Wear cotton overalls buttoned to the neck and wrist and a washable hat.Wear elbow-length PVC or nitrile gloves.If inhalation exposure is likely to exceed the exposure levels above, an AS/NZS 1715/1716 approved respirator suitable for organic vapours should be worn.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear amber to brown liquid
Odour:	Slight naphthalene odour
pH:	4.0 to 6.0 (1% aqueous emulsion)
Vapour pressure:	0.25 mPa (20 °C) – diclofop-methyl, 0.03 kPa (at 38 °C) – hydrocarbon solvent
Vapour density:	> 1.00 – hydrocarbon solvent
Boiling point:	Not available
Freezing/melting point:	Not available
Solubility:	Emulsifies in water
Specific Gravity:	1.13 at 20 °C
Flash Point:	Approx. 87 °C (Pensky Martens Closed Cup)
Flammability (explosive) limits:	LEL: 0.6; UEL: 7.0 Vol. % in air (hydrocarbon solvent)
Auto-ignition temperature:	> 450° C (hydrocarbon solvent)
Partition coefficient (octanol/water):	<i>Diclofop-methyl</i> : $K_{ow} \log P = 4.5$

10. STABILITY AND REACTIVITY

Chemical stability	Stable under normal conditions of use.
Conditions to avoid	Avoid sources of ignition and extreme heat.
Incompatible materials	Incompatible with strong oxidising agents.
Hazardous decomposition products	Hydrogen chloride, carbon monoxide and carbon dioxide may be released in a fire.
Hazardous reactions	None

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

Inhalation	Product is expected to have low toxicity by the inhalation route. High vapour concentrations may be irritating to the respiratory tract, may cause headaches, drowsiness, and dizziness, could be anaesthetic and may have other central nervous system effects.
Skin contact	May irritate the skin. The product has low acute dermal toxicity in the rat. Repeated exposure may cause skin dryness or cracking.
Eye contact	Will irritate the eyes.
Ingestion	Harmful if swallowed. Small amounts of liquid aspirated into the respiratory system during ingestion or from vomiting may cause bronchopneumonia or pulmonary oedema.

ANIMAL TOXICITY DATA – SIMILAR PRODUCT

Acute:

Oral toxicity	LD ₅₀ rat (M): > 2000 mg/kg; LD ₅₀ rat (F): 2242 mg/kg
Dermal toxicity	LD ₅₀ rat: > 5000 mg/kg
Inhalation toxicity	No data
Skin irritation	Slightly irritating (rabbit)
Eye irritation	Slightly irritating (rabbit)
Sensitisation	Non-sensitising (guinea pig)

Chronic:

Diclofop-methyl is not mutagenic or teratogenic. An increased incidence of liver tumours was noted in long-term studies with diclofop-methyl in rodents. As the mechanism involved is not relevant to humans, and the dose levels were very high, the potential oncogenic risk to humans is considered negligible. This product contains naphthalene. There is sufficient evidence for carcinogenicity in experimental animals, but inadequate evidence for cancer in exposed humans. Accordingly, NOHSC have classified naphthalene as a possible human carcinogen (Category 3).

12. ECOLOGICAL INFORMATION

Dangerous to the aquatic environment. Low toxicity to birds, bees and earthworms.
DO NOT contaminate streams, rivers or waterways with Hoegrass 500 or the used containers.

Ecotoxicity	<u>Diclofop-methyl:</u>
	<i>Fish toxicity:</i> LC ₅₀ (96 h): 0.15 mg/L bluegill sunfish (<i>Lepomis macrochirus</i>) LC ₅₀ (96 h): 0.23 mg/L rainbow trout (<i>Onchorhynchus mykiss</i>)
	<i>Daphnia toxicity:</i> EC ₅₀ (48 h) for <i>Daphnia magna</i> 0.23 mg/L
	<i>Bird toxicity:</i> LD ₅₀ : > 10000 mg/kg Japanese quail
	<i>Algae toxicity:</i> EC ₅₀ (72 h): 1.5 mg/L <i>Desmodesmus subspicatus</i>

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12. ECOLOGICAL INFORMATION continued

Environmental fate, persistence and degradability, mobility Diclofop-methyl degrades in soil due to microbial activity, moisture, sunlight and air. In various soils in field trials: DT₅₀ 1 – 57 days, DT₉₀ 30 to 281 days. Irrigation studies indicate low levels of leaching. From model calculations, a hazard to groundwater or to drinking water supplies can be excluded, even in sandy soil. Soil adsorption K_{oc} 14000 to 24400 mg/kg.

13. DISPOSAL CONSIDERATIONS

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.

14. TRANSPORT INFORMATION

UN number	UN 3082
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (contains diclofop-methyl)
Class and Subsidiary Risk	Class 9
Packing Group	Packing Group III
Hazchem code	•3Z
Marine Pollutant	Yes – Severe “PP”
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: 52142
See also Section 2.

16. OTHER INFORMATION

Trademark information Hoegrass® is a Registered Trademark of Bayer.

Preparation information Replaces January 12th, 2009 edition.
Reasons for revision: Transport information.

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16. OTHER INFORMATION continued

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