

# Material Safety Data Sheet



## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

**Product name:** DIUREX (R) WG HERBICIDE

**Synonyms:** Crop Care MSDS No. 32616

**CAS-No.:**

**Molecular Formula:**

**Supplier:** Crop Care Australasia Pty Ltd

**ACN:** 061 362 347

**Street Address:** 77 Tingira Street

Pinkenba 4008

Australia

**Telephone:** + 61 7 3867 9100

**Facsimile:** + 61 7 3867 9110

**Emergency telephone number:** 1 800 033 111 (ALL HOURS)

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

**Recommended use:** Herbicide.

**Appearance:** Pink granules.

CHEMICAL ENTITY	CAS NO.	PROPORTION
Diuron tech.	330-54-1	90% (900 g/kg)
Other ingredients determined not to be hazardous	-	MED
		-----
		100 %

PROPORTION (% weight per weight):

VHIGH >60, HIGH 30-60, MED 10-29, LOW 1-9, VLOW <1

All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS) or are National Registration Authority (NRA) approved active constituents.

## 3. HAZARDS IDENTIFICATION

Hazardous according to criteria of Worksafe Australia.

### Hazard Category

Xn Harmful

### R-phrases(s)

R48/22 Harmful: Danger of serious damage to health by prolonged exposure if swallowed.

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Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail.

**Poisons Schedule (Aust)/Toxic Substance (NZ):** N/A - Not Applicable

## 4. FIRST AID MEASURES

**Ingestion:** Rinse mouth with water. Give plenty of water to drink. If vomiting occurs give further water. Seek medical advice.

**Eye contact:** Irrigate with copious quantities of water for 15 minutes. In all cases of eye contamination it is a sensible precaution to seek medical advice.

**Skin contact:** Wash contaminated skin with plenty of soap and water. Remove contaminated clothing and wash before re-use. If irritation occurs seek medical advice.

**Inhalation:** Remove victim from exposure - avoid becoming a casualty. Seek medical advice if effects persist.

**Notes to physician:** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

**Specific hazards:** Combustible solid. In common with many organic chemicals, may form flammable dust clouds in air. For precautions necessary refer to safety data sheet - "Dust Explosion Hazards".

**Fire fighting further advice:** Combustible solid. Decomposes on heating emitting toxic fumes of carbon oxides, nitrogen oxides and chlorine compounds. Fire fighters to wear self-contained breathing apparatus if risk of exposure to products of combustion or decomposition.

**Suitable extinguishing media:** Water fog (or if unavailable fine water spray), foam, dry agent (carbon dioxide, dry chemical powder).

## 6. ACCIDENTAL RELEASE MEASURES

**SMALL SPILLS:** Wear protective equipment to prevent skin and eye contamination. Contain - prevent contamination of drains and waterways. Sweep up, but avoid generating dust. Collect and seal in properly labelled containers for disposal.

**LARGE SPILLS:** Wear protective equipment to prevent skin and eye contamination and inhalation of dust. Contain - prevent contamination of drains and waterways. Sweep up, but avoid generating dust. Collect and seal in properly labelled drums for disposal. If contamination of crops or waterways has occurred advise emergency services or State Department of Agriculture.

## 7. HANDLING AND STORAGE

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**Storage:** KEEP OUT OF REACH OF CHILDREN. Store in the closed, original container in a dry, well ventilated locked room or place away from children, animals, food, feedstuffs, seed and fertilisers. Do not store for prolonged periods in direct sunlight.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### National occupational exposure limits

No value assigned for this specific material by the National Occupational Health and Safety Commission (Worksafe Australia).

However, Exposure Standards for constituents:

	TWA		STEL	
	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Diuron	-	10	-	-

As published by the National Occupational Health and Safety Commission (Worksafe Australia).

TWA - the Time-Weighted Average airborne concentrations over an eight-hour working day, for a five-day working week over an entire working life.

STEL (Short Term Exposure Limit) - the average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour work day. According to current knowledge these concentrations should neither impair the health of, nor cause undue discomfort to, nearly all workers.

These Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. Exposure Standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

If the directions for use on the product label are followed, exposure of individuals using the product should not exceed the above standard. The standard was created for workers who are routinely, potentially exposed during product manufacture.

**Engineering measures:** IN THE WORKPLACE: Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Exposure Standards. Keep containers closed when not in use.

**Personal protection equipment:** OVERALLS, SAFETY SHOES, SAFETY GLASSES, GLOVES (Short), DUST MASK.

Code: E - Orica Personal Protection Guide No.1, 1998

**MANUFACTURE, PACKAGING AND TRANSPORT:** Avoid skin and eye contact. Wear overalls, safety glasses and impervious gloves. Avoid generating and inhaling dusts. If dust exists, wear dust mask/respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

**PREPARATION AND USE OF PRODUCT:** Avoid contact with eyes and skin. Do not inhale dust or spray mist. After use and before eating, drinking or smoking wash hands, arms and face thoroughly with soap and water.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Form / Colour / Odour:** Pink granules.

**Solubility:** Dispersible in water.

Bulk Density (20 C)	: 0.90	Melting Point (C)	: N Av
Rel Vapour Density (air=1)	: N App	Boiling Point (C)	: N App
Vapour Pressure (20 C)	: N App	Decomp. Point (C)	: N Av
Flash Point (C)	: N App	Sublimation Point	: N App
Flammability Limits (%)	: N Av	pH	: N Av
Autoignition Temp (C)	: N Av	Viscosity	: N App
% Volatile by volume	: <1	Evaporation Rate	: N App
Solubility in water (g/L)	: N Av	(n-Butyl acetate=1)	
LogPow (Diuron)	: 2.85		

(Typical values only - consult specification sheet)  
N Av = Not available                      N App = Not applicable

## 10. STABILITY AND REACTIVITY

**Stability:** Product is stable for at least 2 years under ambient storage condition.

## 11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms that may arise if the product is mishandled and overexposure occurs are:

### Acute Effects

**Ingestion:** No adverse effects expected, however large amounts may cause nausea and vomiting.

**Eye contact:** May be an eye irritant.

**Skin contact:** Contact with skin may result in irritation.

**Inhalation:** Inhalation of dust may result in respiratory irritation.

### Long Term Effects

Evidence from animal tests indicate that repeated or prolonged exposure to Diuron could result in liver and blood disorders, and embryo/foetotoxic effects. (1)

### Acute toxicity / Chronic toxicity

No LD50 data available for product. However for the constituent:

DIURON:

Oral LD50 (rat): 3400 mg/kg. (1)

Dermal LD50 (rabbit): >20000 mg/kg. (1)

Inhalation LC50 (rat): >5 mg/L/4hr. (1)

SKIN: Non-irritant (guinea pig). Not a skin sensitiser (guinea pig). (1)

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In a two year study at dose levels of 2500 mg/kg both dogs and rats showed growth retardation, slight anaemia and the presence of abnormal blood pigment. Some rats showed spleen enlargement, and dogs showed liver enlargement. No histological changes were seen, and there was no evidence of carcinogenicity. No effect was seen at dietary levels of 25, 125 and 250 mg/kg except for a trace of abnormal blood pigment in some rats and dogs at 125 and 250 mg/kg, and a trend toward reduced erythrocyte counts in dogs at 250 mg/kg. (2)

There were no untoward findings in a three generation study in rats maintained at a dietary level of 125 mg/kg (about 6 mg/kg/day in adult rats). In another study rats that received diuron by gastric tube on days 6-15 of pregnancy at a rate of 250 mg/kg/day produced young with wavy ribs and abnormal bone development. (2)

Studies in animals have shown that repeated doses do not produce carcinogenic effects. (1)

ADI (Acceptable Daily Intake) in humans is 0.006 mg/kg/day. (3)

## 12. ECOLOGICAL INFORMATION

Avoid contaminating waterways.

DIURON:

AQUATIC TOXICITY:

Very toxic to aquatic organisms.

96hr LC50 (rainbow trout): 3.5 mg/L. (1)

96hr LC50 (bluegill sunfish): (4)

TERRESTRIAL TOXICITY:

8 day LC50 (bobwhite quail): 1730 mg/kg. (1)

8 day LC50 (mallard duck, pheasant, Japanese quail): > 5000 mg/kg. (4)

ENVIRONMENTAL FATE, PERSISTENCE AND DISTRIBUTION:

The substance has low mobility in soil. There is evidence of slow degradation in soil, with half lives ranging from 90 to 180 days. (1,4)

## 13. DISPOSAL CONSIDERATIONS

Shake box empty into spray tank. Single rinse bag before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on site. Puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the container below 500 mm in a disposal pit specifically marked and set up for the purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

## 14. TRANSPORT INFORMATION

### Road and Rail Transport

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail.

### Marine Transport

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

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## Air Transport

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

## 15. REGULATORY INFORMATION

Hazardous according to criteria of Worksafe Australia.

### Hazard Category

Xn Harmful

### R-phrases

R48/22 Harmful: Danger of serious damage to health by prolonged exposure if swallowed.

### S-phrases

S22 Do not breathe dust.  
S37 Wear suitable gloves.

Poisons Schedule (Aust)/Toxic Substance (NZ): N/A - Not Applicable

## 16. OTHER INFORMATION

### Literary reference

- (1) Material Safety Data Sheet - Diuron (CDS 15768) Zeneca Agrochemicals. 08/98
- (2) In 'Handbook of Pesticide Toxicology'. Eds. Hayes W Jr and Laws E Jr. Academic Press, 1991.
- (3) ADI List, Commonwealth Department of Health and Family Services. 01/2000
- (4) In 'The Pesticide Manual'. 11th Ed. Ed CDS Tomlin. British Crop Protection Society, 1997.

This Material Safety Data Sheet has been prepared by SHE Pacific Pty Ltd on behalf of Orica Ltd and its subsidiary companies.

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Reason(s) For Issue: Change in Hazardous Substances Classification.

Safety Data Sheets updated frequently. Please ensure that you have a current copy.

(R) - Crop Care Australasia Pty Ltd is a licensed user of Diurex which is a registered Trade Mark.

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This MSDS summarises at the date of issue our best knowledge of the health and safety hazard information of the product, and in particular how to safely handle and use the product in the workplace. Since Orica Limited and its subsidiaries cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, review this MSDS in the context of how the user intends to handle and use the product in the workplace.

If clarification or further information is needed to ensure that an appropriate assessment can be made, the user should contact this company.

Our responsibility for product as sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available upon request.