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# MATERIAL SAFETY DATA SHEET

Date of Issue: 01/06/06

## SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Product Name** DuPont™ Linuron flowable herbicide

**Product Code**

**Product Use** For the control of certain weeds in cereals, potatoes, carrots, coriander and other crops as per the Directions for Use.

**Company Name** DuPont Australia Limited

**Address** 168 Walker Street, North Sydney NSW 2060

**Emergency Telephone Number** Transport Emergency 1800 033 111  
Medical Emergency 1800 674 415c

**Telephone Number** 02 9923 6111

**Product Type** Urea based herbicide

## SECTION 2 HAZARDS IDENTIFICATION

**Hazard classification:** Hazardous according to the criteria of National Occupational Health & Safety Commission (NOHSC).  
Xn Harmful  
N Dangerous for the environment  
Carc. Cat 3

**Risk phrases:** R48/22 Also harmful: danger of serious damage to health by prolonged exposure if swallowed.  
R40 Limited evidence of a carcinogenic effect.  
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Safety phrases:** S2 Keep out of reach of children.  
S36/37 Wear suitable protective clothing and gloves.  
S60 The material and its container must be disposed of as hazardous waste.  
S61 Avoid release to the environment. Refer to special instructions/safety data sheet.

**ADG classification:** 9

**SUSDP classification:** 5

## SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS Number	Concentration
Linuron	330-55-2	40.6%
Ethylene glycol	107-21-1	8.0%
Other non hazardous ingredients	-	51.4%

## SECTION 4 FIRST AID MEASURES

**Inhalation** Move to fresh air. Oxygen or artificial respiration if needed. Consult a doctor or Poisons Information Centre.

**Skin contact** Wash off immediately with soap and plenty of water. Wash contaminated clothing before reuse.

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<b>Eye contact</b>	Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing. If eye irritation persists, consult a doctor or Poisons Information Centre..
<b>Ingestion</b>	Drink 1 or 2 glasses of water. Induce vomiting, but only if victim is fully conscious. Call a doctor or Poison Information Centre immediately.
<b>First Aid Facilities</b>	Never give anything by mouth to an unconscious person. If breathing is irregular or stopped, administer artificial respiration.
<b>Advise to Doctor</b>	The following symptoms may occur: <i>Local</i> - none reported <i>Systemic</i> - potential for cyanosis with symptoms such as headache, dizziness etc. due to methaemoglobinaemia, following ingestion of a large amount. For local contamination treatment should be symptomatic after decontamination. In case of skin or eye contamination, treat as documented under 'First Aid'. If a large amount of this product is ingested the following measures should be considered: Monitor cardiac and kidney function and red blood count. Observe methaemoglobinaemia, ECG, serum potassium. Gastric lavage Charcoal administration. Anticonvulsant therapy is not appropriate. Methylene blue and toluidine blue are antidotes for poisoning with Linuron. Alcohol is contraindicated. Recovery is expected to be spontaneous. Bed rest and oxygen administration are recommended.

## SECTION 5 FIRE FIGHTING MEASURES

<b>Extinguishing media</b>	Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.
<b>Hazards from combustion products</b>	Specific Hazard(s): Emits toxic fumes under fire conditions.
<b>Precautions and equipment for fire fighters</b>	Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
<b>Hazchem Code</b>	2X

## SECTION 6 ACCIDENTAL RELEASE MEASURES

Dike Spill. Prevent material from entering sewers, waterways, or low areas. Cover spill with absorbent material such as sweeping compound or clay. Sweep up and place in suitable (fiberboard) containers for later disposal.

## SECTION 7 HANDLING AND STORAGE

<b>Handling</b>	Directions for Safe Handling: Avoid breathing vapours or mists. Avoid contact with eyes, skin, or clothing. Wash thoroughly after handling. Do not consume food, drink, or tobacco in areas where there may become contaminated with these materials.
<b>Storage</b>	Conditions of Storage: Keep tightly closed.
<b>Flammability</b>	Non flammable

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## SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

<b>National exposure standards</b>	Linuron:	AEL* (DuPont) 2 mg/m <sup>3</sup> , 8 and 12 hr TWA, total dust
	Ethylene glycol:	50 ppm, 8 hr TWA vapour 10 mg/m <sup>3</sup> , 8 hr TWA particulate

\* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

**Engineering controls** Safety shower and eye bath. Mechanical exhaust required.

**Personal protective equipment** PESTICIDE APPLICATORS & WORKERS  
These workers must refer to the Product Label and Directions For Use attached to the product

### MANUFACTURING, COMMERCIAL BLENDING, & PACKAGING WORKERS

**Ventilation:** Control enclosed spaces with adequate ventilation to prevent exceedance of ACGIH TLV or OSHA PEL.

**Respiratory Protection:** In enclosed spaces where the TLV or PEL may be exceeded, wear NIOSH/MSHA approved dust or mist respirators.

**Eye Protection:** Wear protective eyewear to prevent contact with this substance.

**Protective Clothing:** Applicators and other handlers must wear coveralls over short-sleeved shirt and short pants, waterproof gloves, shoes plus socks, and chemical-resistant headgear for overhead exposure.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

**Appearance (colour, physical form, shape)** Light tan liquid

**Odour** Slight characteristic odour

**Vapour pressure** Not determined

**Freezing/melting point (specify which)** 103 °C (Boiling)

**Solubility (specify solvent, e.g. water)** Disperses to form a suspension.

**Specific gravity or density** 1.18 g/mL @ 20 °C

**pH** 7.1

**Flash point and method of detecting flash point;** > 100 °C

## SECTION 10 STABILITY AND REACTIVITY

**Chemical stability** This material is stable under normal conditions.

**Conditions to avoid** Strong oxidizing agents

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<b>Incompatible materials</b>	Non known
<b>Hazardous decomposition products</b>	Thermal decomposition may release toxic and/or hazardous gases.
<b>Hazardous reactions</b>	Stable under normal conditions of use. Thermal decomposition will occur above 210°C. Nitrogen oxides and hydrogen chloride may be released in a fire.

## SECTION 11 TOXICOLOGICAL INFORMATION

Acute oral toxicity:

LD50/male: 4480 mg/kg

Acute inhalation toxicity: no data available

Acute dermal toxicity: LD50/rabbit : > 4 000 mg/kg

Skin irritation: No skin irritation

Eye irritation: No eye irritation

Sensitization: Did not cause sensitization on laboratory animals.

Carcinogenicity assessment: Carcinogenic Category 3

Toxicity to reproduction assessment: Toxic to Reproduction Category 2 Toxic to Reproduction Category 3

## SECTION 12 ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	Toxicity to fish:
	LC50/96 h/Oncorhynchus mykiss (rainbow trout): 3.3 mg/L active ingredient
	LC50/96 h/Bluegill sunfish: 9.6 mg/L active ingredient
	Toxicity to algae:
	EC50/72 h/Algae: 0.028 mg/L active ingredient
	Aquatic toxicity:
	EC50/48 h/Daphnia: 0.12 mg/L active ingredient

**Persistence and degradability** Linuron is readily biodegradable. It is readily eliminated from water.

## SECTION 13 DISPOSAL CONSIDERATIONS

<b>Disposal methods and containers</b>	<b><i>For refillable containers</i></b> Empty contents fully into application equipment. Close all valves and return to (point of supply/designated collection point/ other specific collection details) for refill or storage.
	<b><i>For metal drums and plastic containers</i></b> Triple or preferably pressure rinse containers 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.

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## SECTION 14 TRANSPORT INFORMATION

<b>Road and Rail Transport</b>	<b>Class and subsidiary risk:</b>	9
	<b>Packing Group:</b>	III
	<b>UN Number:</b>	3082
	<b>Proper Shipping Name:</b>	Environmentally Hazardous Substance, Liquid, N.O.S. (Linuron 40.6%)
	<b>EPG:</b>	47
	<b>Hazchem code:</b>	2X
<b>IMDG</b>	<b>Class and subsidiary risk:</b>	9
	<b>Packing Group:</b>	III
	<b>UN Number:</b>	3082
	<b>Proper Shipping Name:</b>	Environmentally Hazardous Substance, Liquid, N.O.S. (Linuron 40.6%)
<b>Marine pollutant</b>	Yes	

Special precautions for user

## SECTION 15 REGULATORY INFORMATION

<b>APVMA Approval Number</b>	60490
<b>Additional national and/or international regulatory information.</b>	Registered according to Agricultural and Veterinary Chemicals Act 1988.

## SECTION 16 OTHER INFORMATION

Preparation information:

<b>Key/legend to abbreviations and acronyms used in the MSDS:</b>	ACGIH	American Conference of Governmental Industrial Hygienists.
	DT <sub>50</sub>	Time(days) for 50%loss.
	EC <sub>50</sub>	Median effective concentration.
	EEL	Environmental Exposure Limit.
	ERMA	Environmental Risk Management Authority
	HSNO	Hazardous Substances and New Organisms.
	IARC	International Agency for Research on Cancer.
	Koc	Organic carbon partition coefficient (ml soil water/g organic carbon)
	LC <sub>50</sub>	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
	LD <sub>50</sub>	Lethal dose to kill 50% of test animals/organisms.

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NOEL	No observable effect level.
OSHA	American Occupational Safety and Health Administration.
Pow	The octanol-water partition coefficient is the ratio of the concentration of a chemical in octanol and in water at equilibrium at a specified temperature.
TEL	Tolerable Exposure Limit.
TLV	Threshold Limit Value-an exposure limit set by responsible authority.
WES	Workplace Exposure Limit

### **Literature references**

#### **Sources for data.**

Griffin Linuron flowable herbicide – July 2005  
130000024001 DuPont Lorex DF 25.02.2005

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