



# Material Safety Data Sheet

## Diclofop-methyl 500

### 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product trade name: 4Farmers Diclofop-methyl 500 EC Selective Herbicide.  
Other names: Diclofop 500.  
Recommended use: Herbicide for control of ryegrass and wild-oats in wheat and barley crops.  
Company name & address: 4Farmers Pty. Ltd.  
A.C.N 067 443 485  
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### 2. HAZARDS IDENTIFICATION

Hazard classification: Hazardous according to the criteria of NOHSC. Non-dangerous goods.  
Risk phrases: R20 Harmful by inhalation.  
R22 Harmful if swallowed.  
R36 Irritating to eyes.  
R65 Harmful – may cause lung damage if swallowed.  
R66 Repeated exposure may cause skin dryness or cracking.  
Safety phrases: S20/21 When using do not eat or drink/smoke  
S23 Do not breathe vapour/spray.  
S24/25 Avoid contact with skin/eyes  
S29/35 Do not empty into drains/Dispose of material and container in a safe way  
SUSDP Classification: S6  
ADG Classification: Not a dangerous good  
UN Number: None allocated

### 3. COMPOSITION

Substance	CAS Number	% content
Diclofop-Methyl	51338-27-3	50
N-Methyl pyrrolidone	872-50-4	8
Liquid Hydrocarbon	64742-95-6	≈ 30
Emulsifiers/surfactants		≈ 10

### 4. FIRST AID MEASURES

Skin contact: Remove contaminated clothing. Wash contaminated skin with soapy water. If skin irritation develops, get medical attention. Wash clothing thoroughly before re-use.  
Eye contact: Rinse eye(s) with clean running water for 15 mins. Get medical attention.  
Ingestion: Rinse mouth. Give water to drink if patient is conscious. DO NOT induce vomiting. If vomiting occurs ensure patient can breathe, then give water to drink. Get medical attention. If product enters the lungs, it is very difficult to remove and can cause severe injury or death.  
Advice to doctor: No specific antidote is known. Treat symptomatically. Gastric lavage with medicinal charcoal in water is recommended. Induce diuresis and monitor electrolyte and fluid balance. Observe kidney function. Once vomiting has occurred treatment may be required to prevent the solvent present causing pulmonary pneumonitis.

### 5. FIRE FIGHTING MEASURES

Suitable extinguishing media: Carbon dioxide, dry chemical, foam, water fog.  
Unsuitable extinguishing media: Water stream.  
Special hazards in fire: Product is flammable. Combustion may release carbon dioxide, nitrogen oxides, and/or chlorine compounds.  
Required special protective equipment for fire-fighters: Wear self contained breathing apparatus if in enclosed space.  
Hazchem code: Not applicable.



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### 6. ACCIDENTAL RELEASE MEASURES

- Emergency procedures: Wear protective equipment to prevent skin and eyes being affected.  
Evacuate unprotected and unnecessary personnel from area of spill.  
If material is leaking from a container, stop the leak only if this can be done safely.  
Prevent spillage entering drains or watercourse.
- Methods for containment & cleanup: Vermiculite, Sand, Soil is a suitable absorbent, especially soils high in clay.  
Soil can be used to form bunds to contain spillage.  
Contaminated soil should be collected for disposal at a suitable landfill.  
Contaminated area and tools should be washed down with hypochlorite bleach.  
Personal protective equipment and clothing should be washed with soapy water.

### 7. HANDLING AND STORAGE

- Handling: Keep away from food, drink, and animal feedstuff.  
**KEEP OUT OF REACH OF CHILDREN.**  
Wear suitable Personal protective equipment when handling and spraying.
- Storage: Store in the original container in a dry, cool, ventilated, LOCKED area.  
DO NOT store in prolonged sunlight.  
DO NOT store with food, seed, or animal feedstuff.

### 8. EXPOSURE CONTROLS

- National exposure standards: Exposure limits have not been established by NOHSC for any of the significant ingredients in this product. The ADI for Diclofop-methyl is set at 0.002mg/kg/day. The manufacturer of the solvent recommends a TWA of 100 mg/m<sup>2</sup>.
- Biological limit values: The NOEL for Diclofop-methyl is set at 0.25mg/kg/day.
- Engineering measures: Use assisted ventilation in enclosed spaces if needed, especially storage areas.
- Personal protection equipment:
- Eye/face protection: Goggles or glasses to AS 1366, AS/NZS1337
  - Hand/skin protection: Overalls, PVC gloves and apron, face shield
  - Respiratory protection: Should not be necessary under normal conditions. If spray mist may be encountered, a particulate filter to AS/NZS 1715 should be worn.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance: Brown mobile liquid.
- Odour: Petroleum.
- pH: Not applicable, non-aqueous formulation.
- Vapour pressure: Will be that of solvent,  $\approx$  0.1 kPa.
- Vapour density: Will be that of solvent, > air.
- Boiling point/range:  $\approx$  200 °C (solvent).
- Melting/freezing point:  $\ll$  0 °C.
- Solubility: Fully miscible. Active will be insoluble micro-droplets
- Specific gravity - density: 1.1  $\pm$  0.02
- Flashpoint: 65 - 92°C (Pensky-Martens).
- Explosive limits (air): 0.6 to 7%
- Ignition temperature: 92 °C.

### 10. STABILITY AND REACTIVITY

- Chemical stability: Normally stable. Active may degrade in strong UV light.
- Conditions to avoid: Very high or low temperatures.
- Materials to avoid: Strong oxidising agents.
- Hazardous decomposition products: Oxides of nitrogen and chlorine. Burning with limited oxygen may produce carbon monoxide.
- Hazardous reactions: Not known. Does not polymerise.



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## 11. TOXICOLOGICAL INFORMATION

- Acute toxicity: Diclofop-methyl: Oral LD<sub>50</sub> for rats 563-693 mg/kg (in sesame oil). Dermal LD<sub>50</sub> for female rats was greater than 2,000 mg/kg. Percutaneous LD<sub>50</sub> for rats was greater than 5,000 mg/kg. Inhalation toxicity for rats (technical Diclofop-methyl) was greater than 3.83 mg/l/hour.  
Eye irritation in rabbits was found to be zero at 3, 7, or 24 hours.
- Chronic toxicity: In 2-year feeding trials the NOEL for rats was 20 mg/kg diet. The 15 month NOEL for dogs was 8 mg/kg diet.
- Possible routes of exposure: Inhalation of spray mist is the most likely cause of exposure.
- Range of effects. Excessive exposure may affect human health as follows:
- Skin contact: This product is a skin irritant. Symptoms may include itchiness and reddening of contacted skin. Other symptoms may also become evident, but all should disappear once exposure has ceased. Classified as a potential sensitiser by skin contact. Exposure to a sensitiser, once sensitisation has occurred, may manifest itself as an asthmatic condition, and in some individuals this reaction can be extremely severe.
- Eye contact: The product is an eye irritant. Symptoms may include stinging and reddening of eyes and watering which may become copious. Other symptoms may also become evident. If exposure is brief, symptoms should disappear once exposure has ceased.  
Lengthy exposure or delayed treatment may cause permanent damage.
- Inhalation/ingestion: Inhalation of limited amounts is not likely to be harmful. Ingestion is harmful, likely to cause lung damage by aspiration. Medical attention is critical.
- Dose/conc./conditions likely to cause injury: 50-200 mls.
- Delayed effects if any:
- Relevant negative data: Not known to be carcinogenic, mutagenic, or teratogenic.

## 12. ECOLOGICAL INFORMATION

- Ecotoxicity:
- Aquatic organisms: Not toxic to fish or arthropods.
- Flora: Not toxic except for a limited number of Poaceae – *Avena* and *Lolium* spp.
- Fauna: Not toxic.
- Soil organisms: Not toxic.
- Bees: Not toxic.
- Long term:
- Ozone effects: None recorded.
- Persistence/degradation: Diclofop degrades in soil with a half-life measured in weeks rather than months.
- Mobility: Not particularly mobile, having limited solubility and medium strength adsorption onto soil.
- Bioaccumulative potential: Unknown but probably low.

## 13. DISPOSAL CONSIDERATIONS

- Product: Whenever possible, product should be used for its intended purpose, even if reclaimed from spillage (reclaimed product must be uncontaminated).
- Containers: Whenever possible, follow directions given on container.  
If not available, triple or pressure rinse plastic or metal containers before disposal. Recycle containers if possible (replace cap and return clean containers to recycler or designated collection point). Treat rinsings as for product above.  
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.
- Sewage: Do not dispose of product or rinsings into sewage systems or septic tanks.

## 14. TRANSPORT INFORMATION

- Not a dangerous good, so has no UN Number, UN proper shipping name, ADG Class, or ADG Packing Group.
- Special precautions: Do not store with foodstuffs.
- Hazchem code: None, but is a Combustible liquid Class C1 – flash point between 61 and 150 °C.
- 4Farmers does not anticipate that this product will be shipped by air or sea, nor be exported. Extra precautions may apply if such transport is undertaken.



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### **15. REGULATORY INFORMATION**

AICS: All of the significant ingredients in this formulation are to be found in the public AICS Database.  
This product is an Agricultural Chemical registered by the Agricultural Pesticides and Veterinary Medicines Authority.

### **16. OTHER INFORMATION**

ADI – Allowable Daily Intake.  
NOEL – No Observable Effect Level.  
This MSDS prepared August 2008.