

# 4FARMERS CLETHODIM 240 EC HERBICIDE

Chemwatch Independent Material Safety Data Sheet  
Issue Date: 17-May-2011  
C9317EC

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Version No:2.0  
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## Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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### PRODUCT NAME

4FARMERS CLETHODIM 240 EC HERBICIDE

### PRODUCT USE

Control of grass weeds, especially ryegrass, in broadleaf crops.

### SUPPLIER

Company: 4Farmers  
Address:  
1/70 McDowell Street  
Welshpool, 6106  
Australia  
Telephone: +61 8 9356 3445  
Fax: +61 8 9356 3447  
Email: admin@4farmers.com.au

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## Section 2 - HAZARDS IDENTIFICATION

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### STATEMENT OF HAZARDOUS NATURE

**HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS. According to NOHSC Criteria, and ADG Code.**

COMBUSTIBLE LIQUID, regulated under AS1940 for Bulk Storage purposes only.

#### RISK

- Harmful by inhalation and if swallowed.
- May cause long- term adverse effects in the aquatic environment.
- HARMFUL- May cause lung damage if swallowed.
- Repeated exposure may cause skin dryness and cracking.
- Vapours may cause drowsiness and dizziness.

#### SAFETY

- Wear suitable protective clothing.
- To clean the floor and all objects contaminated by this material, use water and detergent.
- Keep away from food, drink and animal feeding stuffs.
- If swallowed, IMMEDIATELY contact Doctor or Poisons Information Centre. (show this container or label).

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## Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

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NAME	CAS RN	%
clethodim	99129-21-2	24
emulsifiers, proprietary		NotSpec
solvent naphtha petroleum, heavy aromatic	64742-94-5	>60

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## Section 4 - FIRST AID MEASURES

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### SWALLOWED

- - If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
- Avoid giving milk or oils.
- Avoid giving alcohol.
- If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

### EYE

- If this product comes in contact with the eyes:
  - Wash out immediately with fresh running water.

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Section 4 - FIRST AID MEASURES

- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Seek medical attention without delay; if pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

#### SKIN

- If skin contact occurs:
  - Immediately remove all contaminated clothing, including footwear.
  - Flush skin and hair with running water (and soap if available).
  - Seek medical attention in event of irritation.

#### INHALED

- - If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prosthesis such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.

#### NOTES TO PHYSICIAN

- For acute or short term repeated exposures to petroleum distillates or related hydrocarbons:
    - Primary threat to life, from pure petroleum distillate ingestion and/or inhalation, is respiratory failure.
    - Patients should be quickly evaluated for signs of respiratory distress (e.g. cyanosis, tachypnoea, intercostal retraction, obtundation) and given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases (pO<sub>2</sub> 50 mm Hg) should be intubated.
    - Arrhythmias complicate some hydrocarbon ingestion and/or inhalation and electrocardiographic evidence of myocardial injury has been reported; intravenous lines and cardiac monitors should be established in obviously symptomatic patients. The lungs excrete inhaled solvents, so that hyperventilation improves clearance.
    - A chest x-ray should be taken immediately after stabilisation of breathing and circulation to document aspiration and detect the presence of pneumothorax.
- Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically.

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### Section 5 - FIRE FIGHTING MEASURES

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#### EXTINGUISHING MEDIA

- - Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

#### FIRE FIGHTING

- - Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- Use water delivered as a fine spray to control fire and cool adjacent area.

#### FIRE/EXPLOSION HAZARD

- - Combustible.
  - Slight fire hazard when exposed to heat or flame.
  - Heating may cause expansion or decomposition leading to violent rupture of containers.
  - On combustion, may emit toxic fumes of carbon monoxide (CO).
- Combustion products include: carbon dioxide (CO<sub>2</sub>), hydrogen chloride, phosgene, nitrogen oxides (NO<sub>x</sub>), sulfur oxides (SO<sub>x</sub>), other pyrolysis products typical of burning organic material.
- May emit poisonous fumes.
- May emit corrosive fumes.

#### FIRE INCOMPATIBILITY

- - Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

#### HAZCHEM

None

#### Personal Protective Equipment

Gloves, boots (chemical resistant).  
Breathing apparatus.

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## Section 6 - ACCIDENTAL RELEASE MEASURES

### MINOR SPILLS

- - Remove all ignition sources.
- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Control personal contact by using protective equipment.

### MAJOR SPILLS

- Moderate hazard.
- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

## Section 7 - HANDLING AND STORAGE

### PROCEDURE FOR HANDLING

- - Containers, even those that have been emptied, may contain explosive vapours.
- Do NOT cut, drill, grind, weld or perform similar operations on or near containers.
- DO NOT allow clothing wet with material to stay in contact with skin.
- Electrostatic discharge may be generated during pumping - this may result in fire.
- Ensure electrical continuity by bonding and grounding (earthing) all equipment.
- Restrict line velocity during pumping in order to avoid generation of electrostatic discharge ( $\leq 1$  m/sec until fill pipe submerged to twice its diameter, then  $\leq 7$  m/sec).
- Avoid splash filling.
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.

### SUITABLE CONTAINER

- - Metal can or drum
- Packaging as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

### STORAGE INCOMPATIBILITY

- - Explosion or violent decomposition during distillation of aldoximes has been attributed to the presence of peroxides arising from autooxidation.
- Peroxides may form on the  $-C=NOH$  system (both aldehydes and hydroxylamine peroxides) or perhaps arise from unreacted aldehyde.
- Explosion hazards are inherent to ketoximes and many of their derivatives. Such hazard has been attributed to the inadvertent occurrence of acidic conditions leading to the highly exothermic Beckmann rearrangement accompanied by potentially catastrophic gas evolution.
- The presence of acidic salts (iron(III) chloride), or the ketoxime hydrochloride markedly lowers decomposition temperatures.
- Avoid reaction with oxidising agents.

### STORAGE REQUIREMENTS

- - Store in original containers.
- Keep containers securely sealed.
- No smoking, naked lights or ignition sources.
- Store in a cool, dry, well-ventilated area.

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE CONTROLS

Source	Material	TWA mg/m <sup>3</sup>	Notes
Australia Exposure Standards	4Farmers Clethodim 240 EC Herbicide (Petrol (gasoline))	900	(see Chapter 16)

The following materials had no OELs on our records

- clethodim: CAS:99129- 21- 2 CAS:110429- 62- 4 CAS:104233- 53- 6

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## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### PERSONAL PROTECTION

#### RESPIRATOR

- type a-p filter of sufficient capacity.

#### EYE

- - Safety glasses with side shields.
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

#### HANDS/FEET

- - Wear chemical protective gloves, eg. PVC.
  - Wear safety footwear or safety gumboots, eg. Rubber.
- Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include: such as:
- frequency and duration of contact,
  - chemical resistance of glove material,
  - glove thickness and
  - dexterity.

#### OTHER

- - Overalls.
- P.V.C. apron.
- Barrier cream.
- Skin cleansing cream.

#### ENGINEERING CONTROLS

- Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator.

## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

### APPEARANCE

Light brown liquid with a light petroleum smell; does not mix with water.

### PHYSICAL PROPERTIES

Liquid.  
Does not mix with water.  
Floats on water.

State	Liquid	Molecular Weight	Not Applicable
Melting Range (°C)	<0	Viscosity	Not Available
Boiling Range (°C)	>100	Solubility in water (g/L)	Immiscible
Flash Point (°C)	61- 150	pH (1% solution)	Not Applicable
Decomposition Temp (°C)	Not Available	pH (as supplied)	Not Applicable
Autoignition Temp (°C)	Not Available	Vapour Pressure (kPa)	Not Available
Upper Explosive Limit (%)	Not Available	Specific Gravity (water=1)	0.94- 0.96
Lower Explosive Limit (%)	Not Available	Relative Vapour Density (air=1)	Not Available
Volatile Component (%vol)	Not Available	Evaporation Rate	Not Available

## Section 10 - STABILITY AND REACTIVITY

### CONDITIONS CONTRIBUTING TO INSTABILITY

- - Presence of incompatible materials.
  - Product is considered stable.
  - Hazardous polymerisation will not occur.
- For incompatible materials - refer to Section 7 - Handling and Storage.

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## Section 11 - TOXICOLOGICAL INFORMATION

### POTENTIAL HEALTH EFFECTS

#### ACUTE HEALTH EFFECTS

- HARMFUL- May cause lung damage if swallowed.
- Harmful by inhalation and if swallowed.
- Vapours may cause dizziness or suffocation.
- Vapours may cause drowsiness and dizziness.

#### CHRONIC HEALTH EFFECTS

- Repeated exposure may cause skin dryness and cracking.

### TOXICITY AND IRRITATION

- unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

#### SOLVENT NAPHTHA PETROLEUM, HEAVY AROMATIC: 4FARMERS CLETHODIM 240 EC HERBICIDE:

- for petroleum:

This product contains benzene which is known to cause acute myeloid leukaemia and n-hexane which has been shown to metabolize to compounds which are neuropathic.

This product contains toluene.

This product contains ethyl benzene and naphthalene from which there is evidence of tumours in rodents

Carcinogenicity: Inhalation exposure to mice causes liver tumours, which are not considered relevant to humans.

#### CLETHODIM:

##### TOXICITY

Oral (rat) LD50: 1630 mg/kg (male) \*

Oral (rat) LD50: 1360 mg/kg (female) \*

Inhalation (?) LC50: >4.6 mg/l/4h \*

Dermal (rabbit) LD50: >5000 mg/kg

■ [ \* The Pesticides Manual, Incorporating The Agrochemicals Handbook, 10th Edition, Editor Clive Tomlin, 1994, British Crop Protection Council].

ADI 0.16 mg/kg (Canada); 0.01 mg/kg (USA) \*

Toxicity Class WHO III; EPA III \*

NOEL for mice 30, rats 16 mg/kg daily \*

##### IRRITATION

Nil Reported

#### SOLVENT NAPHTHA PETROLEUM, HEAVY AROMATIC:

##### TOXICITY

Oral (rat) LD50: 3200 mg/kg

Dermal (rabbit) LD50: >3160 mg/kg [PETROFIN]

##### IRRITATION

Eye (rabbit): Irritating

## Section 12 - ECOLOGICAL INFORMATION

May cause long-term adverse effects in the aquatic environment.

### Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
4Farmers Clethodim 240 EC Herbicide clethodim	No Data Available HIGH	No Data Available No Data Available	LOW	MED
solvent naphtha petroleum, heavy aromatic	No Data Available	No Data Available		

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### Section 13 - DISPOSAL CONSIDERATIONS

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- - Containers may still present a chemical hazard/ danger when empty.
  - Return to supplier for reuse/ recycling if possible.
- Otherwise:
- If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.
  - Where possible retain label warnings and MSDS and observe all notices pertaining to the product.
- Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area.
- A Hierarchy of Controls seems to be common - the user should investigate:
- Reduction.
  - DO NOT allow wash water from cleaning or process equipment to enter drains.
  - It may be necessary to collect all wash water for treatment before disposal.
  - In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
  - Where in doubt contact the responsible authority.
  - Recycle wherever possible or consult manufacturer for recycling options.
  - Consult State Land Waste Authority for disposal.
  - Bury or incinerate residue at an approved site.
  - Recycle containers if possible, or dispose of in an authorised landfill.

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### Section 14 - TRANSPORTATION INFORMATION

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Labels Required: COMBUSTIBLE LIQUID, regulated under AS1940 for Bulk Storage purposes only.

#### HAZCHEM:

None (ADG7)

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: ADG7, UN, IATA, IMDG

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### Section 15 - REGULATORY INFORMATION

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POISONS SCHEDULE S5

#### REGULATIONS

##### Regulations for ingredients

**clethodim (CAS: 99129-21-2,110429-62-4,104233-53-6) is found on the following regulatory lists;**

"Australia ADI list - Acceptable daily intakes for agricultural and veterinary chemicals", "Australia New Zealand Food Standards Code - Maximum Residue Limits (Australia only) - Schedule 1", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5"

**solvent naphtha petroleum, heavy aromatic (CAS: 64742-94-5) is found on the following regulatory lists;**

"Australia Hazardous Substances", "Australia High Volume Industrial Chemical List (HVICL)", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD Representative List of High Production Volume (HPV) Chemicals"

**No data for 4Farmers Clethodim 240 EC Herbicide (CW: 26-8734)**

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### Section 16 - OTHER INFORMATION

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#### INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name

CAS

clethodim

99129- 21- 2, 110429- 62- 4, 104233- 53- 6

■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:  
[www.chemwatch.net/references](http://www.chemwatch.net/references).

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

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Section 16 - OTHER INFORMATION

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Issue Date: 17-May-2011

Print Date: 17-May-2011

*This is the end of the MSDS.*