

# SAFETY DATA SHEET

According to Safe Work Australia

Revision: 01.09.2016

## 1 . IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

**Product Name:** 4FARMERS CLODINAFOP 240 EC SELECTIVE HERBICIDE

**Recommended Use of the Chemical and Restriction on Use:** Agricultural herbicide.

**Details of Manufacturer or Importer:**

4Farmers Australia Pty Ltd  
70 McDowell Street  
Welshpool WA 6106

**Phone Number:** +61 8 9356 3446

**Emergency telephone number:** National Poison Information Centre: 13 11 26

## 2 . HAZARDS IDENTIFICATION

**Hazardous Nature:**

Classified as Hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and Safe Work Australia criteria.

Not classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition). However if transported by Air or Sea, then the product is classed as Dangerous (Class 9 Environmentally Hazardous) by IATA and IMDG/IMSBC respectively. See details below and in Section 14 of this SDS.



health hazard

Repr. 1B            H360 May damage fertility or the unborn child.  
STOT RE 2        H373 May cause damage to organs through prolonged or repeated exposure.  
Asp. Tox. 1        H304 May be fatal if swallowed and enters airways.



environment

Aquatic Acute 1    H400 Very toxic to aquatic life.  
Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.



Skin Irrit. 2        H315 Causes skin irritation.  
Eye Irrit. 2A       H319 Causes serious eye irritation.  
Skin Sens. 1        H317 May cause an allergic skin reaction.  
STOT SE 3        H335 May cause respiratory irritation.  
Flam. Liq. 4        H227 Combustible liquid.

**Signal Word** Danger

**Hazard Statements**

H227 Combustible liquid.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H317 May cause an allergic skin reaction.  
H360 May damage fertility or the unborn child.  
H335 May cause respiratory irritation.  
H373 May cause damage to organs through prolonged or repeated exposure.

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H304 May be fatal if swallowed and enters airways.

H410 Very toxic to aquatic life with long lasting effects.

**Precautionary Statements**

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P273	Avoid release to the environment.
P264	Wash hands thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321	Specific treatment (see on this label).
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER/doctor if you feel unwell.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P314	Get medical advice/attention if you feel unwell.
P331	Do NOT induce vomiting.
P370+P378	In case of fire: Use for extinction: CO <sub>2</sub> , powder or water spray.
P302+P352	IF ON SKIN: Wash with plenty of water.
P391	Collect spillage.
P362+P364	Take off contaminated clothing and wash it before reuse.
P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container in accordance with local/regional/national regulations.

### 3. COMPOSITION AND INFORMATION ON INGREDIENTS

**Chemical Characterization: Mixtures****Description:** Mixture of substances listed below with nonhazardous additions.**Hazardous Components:**

64742-94-5	Solvent naphtha (petroleum), heavy arom. ⚠ Asp. Tox. 1, H304	45%
105512-06-9	Clodinafop-propargyl (ISO) ⚠ STOT RE 2, H373; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. (Oral) 4, H302; Skin Sens. 1, H317	24%
872-50-4	N-methyl-2-pyrrolidone ⚠ Repr. 1B, H360; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335; Flam. Liq. 4, H227	8 - 12%
99607-70-2	Cloquintocet mexyl ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Skin Sens. 1, H317	6%

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### 4 . FIRST AID MEASURES

**Inhalation:**

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention if breathing problems develop.

**Skin Contact:**

In case of skin contact, immediately remove contaminated clothing and wash affected areas with water and soap. Seek medical attention if symptoms occur.

**Eye Contact:**

In case of eye contact, rinse cautiously with water for at least minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention.

**Ingestion:**

If swallowed, do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Do not give anything by mouth to an unconscious person. Seek immediate medical attention.

**Information for Doctor:**

Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically.

Establish a patent airway with suction where necessary.

Watch for signs of respiratory insufficiency and assist ventilation as necessary.

Administer oxygen by non-rebreather mask at 10 to 15 L/min.

Monitor and treat, where necessary, for pulmonary oedema .

**Symptoms Caused by Exposure:**

Inhalation: High vapour concentrations of the solvent may irritate the eyes and respiratory tract and may cause headaches, dizziness and other central nervous system effects.

Skin Contact: May cause skin irritation.

Eye Contact: May cause eye irritation.

Ingestion: May be fatal if swallowed and enters airways. If aspirated into the lungs from swallowing or vomiting, the presence of solvent may cause chemical pneumonitis or other lung damage.

### 5 . FIRE FIGHTING MEASURES

**Suitable Extinguishing Media:**

Water fog, foam, carbon dioxide or dry chemical powder. Do not use water jet as it may scatter and spread fire.

**Specific Hazards Arising from the Chemical:**

Hazardous combustion products include oxides of carbon and nitrogen, hydrogen chloride, phosgene, and other pyrolysis products.

Combustible liquid.

Closed containers may explode when exposed to extreme heat. Containers close to fire should be removed if safe to do so. Use water spray to cool fire exposed containers.

**Special Protective Equipment and Precautions for Fire Fighters:**

When fighting a major fire wear self-contained breathing apparatus and protective equipment.

### 6 . ACCIDENTAL RELEASE MEASURES

**Personal Precautions, Protective Equipment and Emergency Procedures:**

Wear Safe Work Australia approved respiratory protection and full protective clothing. Evacuate all non-essential personnel from affected area. Do not breathe vapours. Ensure adequate ventilation. Extinguish all sources of ignition. Avoid sparks and open flames. No smoking.

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**Environmental Precautions:**

In the event of a major spill, prevent spillage from entering drains or water courses.

**Methods and Materials for Containment and Cleaning Up:**

Stop leak if safe to do so and absorb spill with sand, earth, vermiculite or some other absorbent material. Collect the spilled material and place into a suitable container for disposal.

## 7 . HANDLING AND STORAGE

**Precautions for Safe Handling:**

Use of safe work practices are recommended to avoid eye or skin contact and inhalation of vapours. Food, beverages and tobacco products should not be stored or consumed where this material is in use. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use. Provide eyewash fountains and safety showers in close proximity to points of potential exposure.

**Conditions for Safe Storage:**

Store in a cool, dry and well ventilated area, out of reach of children. Store only in original container. Keep container tightly closed when not in use. Protect from direct sunlight, heat, sparks, open flames and other sources of ignition. Keep away from strong oxidising agents.

## 8 . EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Exposure Standards:****872-50-4 N-methyl-2-pyrrolidone**

NES	STEL: 309 mg/m <sup>3</sup> , 75 ppm TWA: 103 mg/m <sup>3</sup> , 25 ppm Sk
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**Engineering Controls:**

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapour below occupational exposure standards.

**Respiratory Protection:**

Use a Safe Work Australia approved vapour respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentrations of mist or vapour, inadequate ventilation, development of respiratory tract irritation) and engineering controls are not feasible. See Australian Standards AS/NZS 1715 and 1716 for more information.

**Skin Protection:**

Elbow-length PVC gloves, cotton overall buttoned to the neck and wrist, safety boots and a washable hat. See Australian Standards AS/NZS 2161, 2210.1 and 2210.2 for more information.

**Eye and Face Protection:**

Face shield or goggles for protection against splashing materials or liquids. See Australian/New Zealand Standard AS/NZS 1337.

## 9 . PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:**

<b>Form:</b>	Liquid
<b>Colour:</b>	Light brown to dark brown
<b>Odour:</b>	Aromatic solvent odour
<b>Odour Threshold:</b>	No information available
<b>pH-Value:</b>	3.5-4.5 (estimated)
<b>Melting point/Melting range:</b>	<-10 °C
<b>Initial Boiling Point/Boiling Range:</b>	No information available

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<b>Flash Point:</b>	> 70 °C
<b>Flammability:</b>	Class 1 combustible Liquid
<b>Auto-ignition Temperature:</b>	No information available
<b>Decomposition Temperature:</b>	No information available
<b>Explosion Limits:</b>	
<b>Lower:</b>	No information available
<b>Upper:</b>	No information available
<b>Vapour Pressure:</b>	No information available
<b>Relative Density at 20 °C:</b>	1.004
<b>Vapour Density:</b>	No information available
<b>Evaporation Rate:</b>	No information available
<b>Solubility in Water:</b>	Emulsifies and sinks in water.
<b>Partition Coefficient (n-octanol/water):</b>	No information available

## 10 . STABILITY AND REACTIVITY

**Possibility of Hazardous Reactions:** Hazardous polymerisation will not occur.

**Chemical Stability:** Stable at ambient temperature and under normal conditions of use.

**Conditions to Avoid:** Heat, sparks, open flames, hot surfaces and direct sunlight.

**Incompatible Materials:**

Strong oxidising agents such as nitrates, oxidising acids, chlorine bleaches and pool chlorine.

**Hazardous Decomposition Products:** Toxic and irritant vapours.

## 11 . TOXICOLOGICAL INFORMATION

**Toxicity:**

**LD<sub>50</sub>/LC<sub>50</sub> Values Relevant for Classification:**

**872-50-4 N-methyl-2-pyrrolidone**

Oral	LD <sub>50</sub>	3914 mg/kg (rat)
Dermal	LD <sub>50</sub>	8000 mg/kg (rabbit)

**99607-70-2 Cloquintocet mexyl**

Oral	LD <sub>50</sub>	>2000 mg/kg (rat)
Dermal	LD <sub>50</sub>	>2000 ml/kg (rat)
Inhalation	LC <sub>50</sub> /4 h	>0.935 mg/l (rat)

**105512-06-9 Clodinafop-propargyl (ISO)**

Oral	LD <sub>50</sub>	1392 mg/kg (rat)
Dermal	LD <sub>50</sub>	>2000 mg/kg (rat)
Inhalation	LC <sub>50</sub> /4 h	2.325 mg/l (rat)

**Acute Health Effects**

**Inhalation:**

High vapour concentrations of the solvent may irritate the eyes and respiratory tract and may cause headaches, dizziness and other central nervous system effects.

**Skin:** May cause skin irritation.

**Eye:** May cause eye irritation.

**Ingestion:**

May be fatal if swallowed and enters airways. If aspirated into the lungs from swallowing or vomiting, the presence of solvent may cause chemical pneumonitis or other lung damage.

**Skin Corrosion / Irritation:** Causes skin irritation.

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**Serious Eye Damage / Irritation:** Causes serious eye irritation.**Respiratory or Skin Sensitisation:** May cause an allergic skin reaction.**Germ Cell Mutagenicity:** Based on classification principles, the classification criteria are not met.**Carcinogenicity:** This product does NOT contain any IARC listed chemicals.**Reproductive Toxicity:**

2-Pyrrolidinone, 1-methyl- is classified by Safe Work Australia as Toxic to Reproduction Category 2.

**Specific Target Organ Toxicity (STOT) - Single Exposure:** May cause respiratory irritation.**Specific Target Organ Toxicity (STOT) - Repeated Exposure:**

May cause damage to organs through prolonged or repeated exposure.

**Aspiration Hazard:** May be fatal if swallowed and enters airways.**Chronic Health Effects:**

Prolonged contact with the concentrate can cause defatting of the skin and dermatitis.

**Existing Conditions Aggravated by Exposure:** No information available**Additional toxicological information:**

The Australian Acceptable Daily Intake (ADI) for clodinafop-propargyl for a human is 0.004 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 0.37 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. (Ref: Comm. Dept. of Health and Ageing Office of Chemical Safety, 'ADI List', June 2014).

The Australian Acceptable Daily Intake (ADI) for cloquintocet-mexyl for a human is 0.04 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 4 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. (Ref: Comm. Dept. of Health and Ageing Office of Chemical Safety, 'ADI List', June 2014).

## 12 . ECOLOGICAL INFORMATION

**Ecotoxicity:** Clodinafop-propargyl and cloquintocet-mexyl are not toxic to bees and birds.**Aquatic toxicity:****105512-06-9 Clodinafop-propargyl (ISO)**EC<sub>0</sub>/48 h >74 mg/l (daphnia)LC<sub>50</sub>/96 h 0.39 mg/l (rainbow trout)**99607-70-2 Cloquintocet mexyl**EC<sub>0</sub>/48 h >100 mg/l (daphnia)EC<sub>50</sub> 0.63 mg/l (scenedesmus subspicatus) (96-120hr)LC<sub>50</sub>/96 h >76 mg/l (rainbow trout)**Persistence and Degradability:**

Cloquintocet-mexyl and clodinafop-propargyl are not persistent in soil or water.

**Bioaccumulative Potential:** Cloquintocet-mexyl and clodinafop-propargyl do not bioaccumulate.**Mobility in Soil:** Cloquintocet-mexyl is immobile in soil. Clodinafop-propargyl has low mobility in soil.

## 13 . DISPOSAL CONSIDERATIONS

**Disposal Methods and Containers:** Dispose according to applicable local and state government regulations.**Special Precautions for Landfill or Incineration:**

Please consult your state Land Waste Management Authority for more information.

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## 14 . TRANSPORT INFORMATION

<b>UN Number</b>	
<b>ADG</b>	Not regulated
<b>IMDG, IATA</b>	UN3082
<b>Proper Shipping Name</b>	
<b>ADG</b>	Not regulated
<b>IMDG</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., MARINE POLLUTANT
<b>IATA</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
<b>Dangerous Goods Class</b>	
<b>ADG Class:</b>	Not regulated
<b>IMDG Class:</b>	9 Miscellaneous dangerous substances and articles.
<b>Packing Group:</b>	
<b>ADG</b>	Not regulated
<b>IMDG, IATA</b>	III
<b>Marine pollutant:</b>	Yes Symbol (fish and tree)
<b>EMS Number:</b>	FA-SF
<b>Hazchem Code:</b>	3Z
<b>Special Provisions:</b>	179, 274, 331, 335, AU01
<b>Limited Quantities:</b>	5L
<b>Packagings &amp; IBCs - Packing Instruction:</b>	P001, IBC03, LP01
<b>Packagings &amp; IBCs - Special Packing Provisions:</b>	PP1
<b>Portable Tanks &amp; Bulk Containers - Instructions:</b>	T4
<b>Portable Tanks &amp; Bulk Containers - Special Provisions:</b>	TP1, TP29

## 15 . REGULATORY INFORMATION

### Australian Inventory of Chemical Substances:

872-50-4 | N-methyl-2-pyrrolidone

### Standard for the Uniform Scheduling of Drugs and Poisons (SUSMP) - Poison Schedule:

Poisons Schedule: 6

## 16 . OTHER INFORMATION

**Date of Preparation or Last Revision:** 01.09.2016**Abbreviations and acronyms:**

ADG: Australian Dangerous Goods  
 IMDG: International Maritime Code for Dangerous Goods  
 IATA: International Air Transport Association  
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 LC<sub>50</sub>: Lethal concentration, 50 percent  
 LD<sub>50</sub>: Lethal dose, 50 percent  
 IARC: International Agency for Research on Cancer  
 STEL: Short Term Exposure Limit

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TWA: Time Weighted Average

NES: National Exposure Standard (Safe Work Australia - Workplace Exposure Standards For Airborne Contaminants)

Flam. Liq. 4: Flammable liquids – Category 4

Acute Tox. (Oral) 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Skin Sens. 1: Skin sensitisation, Hazard Category 1

Repr. 1B: Reproductive toxicity – Category 1B

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Asp. Tox. 1: Aspiration hazard – Category 1

Aquatic Acute 1: Hazardous to the aquatic environment, short-term (Acute). Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment, long-term (Chronic). Category 1

**Disclaimer**

This SDS is prepared in accord with the Safe Work Australia document “Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals - December 2011”

The information contained in this material safety data sheet is provided in good faith and is believed to be accurate at the date of issuance. 4Farmers Australia Pty Ltd makes no representation of the accuracy or comprehensiveness of the information and to the full extent allowed by law excludes all liability for any loss or damage related to the supply or use of the information in this material safety data sheet. The user is cautioned to make their own determinations as to the suitability of the information provided to the particular circumstances in which the product is used.