FARM AG INTERNATIONAL (Pty) Ltd

P.O. Box 1523, Durban 4000 Co Reg. No. 2005/011761/07

Head Office : 61 Marshall Dr., Old Mill Industrial Park, Mount Edgecombe **South Africa**

Tel + 27 31 003 3486 ● **Fax** + 27 31 502 5852

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name:	**FarmAg MCPA**
Product Use:	Herbicide
Effective Date:	August 2015
Revision Date:	**August 2017**

24 Hr Emergency Number:	082 771 2712
In case of poisoning:	
Poison Information Centre:	082 446 8946
Tygerberg Hospital:	(021) 931 6129
Poison Emergency Enquiries	(021) 689 5227
In case of Spillage:	
HAZMAT:	0800 147 112

2. COMPOSITION / INFORMATION ON INGREDIENTS

Common Name:	MCPA Herbicide
Chemical Name:	(4-chloro-2 – methylphenoxy)acetic acid, potassium salt
CAS No.:	5221-16-9
Chemical Family:	Phenoxyacetate herbicide
Chemical Formula:	$C_9H_9ClO_3$
Molecular weight:	238.72
Formulation:	MCPA (phenoxy acid) 400g/ℓ Soluble Liquid
Use:	Selective post emergence herbicide
SYMBOLS:	Xn
RISK-PHRASE(S):	R20/21/22

3. HAZARD IDENTIFICATION

Main Hazard:	Risk of serious damage to eyes
Adverse Health Effects:	Harmful by inhalation, in contact with skin and If swallowed

4. FIRST AID MEASURES AND PRECAUTIONS

General Advice: Obtain medical attention (show this safety data sheet). If unconscious check breathing and pulse (heartbeat). Give artificial ventilation and chest compression if necessary. If unconscious but breathing and pulse are normal, place in the recovery position.

Inhalation: Move to fresh air. If there is breathing difficulty or cough keep patient at rest seated in position of maximum comfort.

Skin contact: Remove contaminated clothing immediately. If skin contamination occurs wash immediately with plenty of clean water for 10 minutes, then send promptly to a doctor or hospital. Repeat skin decontamination process until all signs of chemicals have gone.

Eye contact: If substance have got into eyes immediately wash out with plenty of water for at least 10 minutes. Protect unharmed eye. Take care not to wash the chemical from one eye to the other.

Ingestion: If ingestion is suspected, do not induce vomiting, send to hospital immediately. If conscious, drink plenty of water.

Diagnosis of poisoning:

Irritation to skin and mucous membranes. Long-term contact with skin may result in loss of pigmentation of the skin. Ingestion of near the lethal dose causes burning pains in the tongue, pharynx, and abdomen, hypersalivation; flushing of the skin; vomiting, diarrhea; painful and

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tender muscles with fibrillary twitching; fever or subnormal temperature; lethargy; weakness; and intercostal paralysis. Weakness, fall of blood pressure, convulsions and cardiac rhythm disturbances may occur. Death occurs due to kidney, liver, or respiratory failure (lung edema). After acute poisoning, survival of 48 – 96 hours is usually followed by a complete recovery.

Advice to physicians:
There is not antidote, and symptomatic treatment should be given. If substantial amounts have been ingested, spontaneous emesis may occur. If vigorous emesis has not occurred measures should be taken to empty the stomach and limit gastrointestinal absorption by gastric intubation, aspiration, and lavage, following placement of a cuffed endotracheal tube. Repeated administration of charcoal at half or more the original dose every 2-4 hours may be beneficial. If gastric aspiration and lavage is not performed due to delay in treatment, and if the patient is fully alert, administer charcoal and laxative orally.

Administer intravenous fluids to accelerate excretion of the chlorophenoxy compound, and to limit concentration of the toxicant in the kidney. Forced alkaline diuresis has been used successfully in management of suicidal ingestions of chlorophenoxy compounds. Alkalinizing the urine by including sodium bicarbonate (44-88 mEq per litre) in the intravenous solution apparently accelerates excretion of the toxin dramatically and substantially. Urine pH should be maintained in the 7.6-8.8 range. Include potassium chloride as needed to offset increased potassium losses: add 20-40 mEq of potassium chloride to each litre of intravenous solution. Monitor serum electrolytes carefully. There may possibly be some hazard to the kidneys when urine concentrations of toxicant are very high, so the integrity of renal function and fluid balance should be monitored carefully as the chlorophenoxy compound is excreted. Hemodialysis is not likely to be of significant benefit in poisonings by chlorophenoxy compounds because of the extensive protein binding of these chemicals. Follow-up clinical examination should include electromyographic and nerve conduction studies to detect any neuropathic changes and neuromuscular junction defects.

5. FIRE-FIGHTING MEASURES

Extinguishing media: Extinguish with carbon dioxide, dry chemicals, foam and water spray.

Special hazards: The material does not burn or burns with difficulty. It is not explosive. Should the chemical be involved in a general fire, ensure chemical protective clothing are used.

Special protective equipment for fire-fighters: May give off toxic fumes in a fire, wear breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES (SPILLAGE)

Personal precautions:
Avoid contact with eyes, clothing and inhalation of vapours, aerosols or dusts. Wear suitable protective clothing, boots, gloves, eye and face protection. Do not wear contact lenses.

Environmental precautions:
Do not let product enter drains. Do not allow materials to contaminate ground water systems.

Methods for cleaning up:
Stay upwind, out of low-lying areas, and ventilate closed spaces before entering. Soak up with inert absorbent material, place in suitable labeled containers and dispose as hazardous waste. Wash area with detergent and water and follow with clean water rinse.

Where appropriate refer to Section 8 & 13

7. HANDLING AND STORAGE REQUIREMENTS

Handling:
Relatively safe to handle. Handle with the care and caution due crop protection chemicals. When using, do not eat, drink or smoke.
Storage:
Keep containers tightly closed in a dry, cool and well ventilated place. Store away from food, feedstuffs, fertilizers, seed and agricultural chemicals. Keep away from children and animals. Local regulations should be complied with.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Chemical Name	National Occupation exposure limits
(4-chloro-2-methylphenoxy) acetic acid, potassium salt	None assigned in current edition of the U.K. Health and Safety Executive publications EH40: Occupational exposure limits Based on the value for the similar material, 2.4-D, the calculated salt equivalent long term exposure limit (8 hour TWA reference period) is 11mg.m^{-3}. Short-term exposure limit (15-minute reference period) 22mg.m^{-3}.

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Engineering measures: The usual precautionary measures for handling chemicals should be observed. Use only in area provided with appropriate exhaust ventilation.

Personal protective equipment:
Respiratory protection: In case of insufficient ventilation wear suitable respiratory equipment.
Hand protection: Wear suitable gloves resistant to chemical penetration
Eye protection: Wear suitable eye/face protection
Skin and body protection: Wear suitable protective clothing
Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. When using, do not eat, drink or smoke. Shower or bathe at the end of working.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Soluble liquid
Colour: Brown
Odour: Phenolic
pH: 6.5 – 8.5
Oxidizing properties: Yes
Vapour pressure: Not applicable, aqueous solution
Density: 1.2 mg/l

10. STABILITY AND REACTIVITY

Stability: Stable under recommended storage conditions
Dilution stability: Stable in aqueous solutions
Materials to avoid: Strong acids and oxidizing agents
Hazardous decomposition products: Carbon monoxide, carbon dioxide (CO_2), Hydrogen chloride gas

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:
Ingestion: Harmful if swallowed. LD_{50}/oral/rat = 1160 mg/kg (males and females)

Skin contact: LD_{50}/dermal/rat = >4000 mg/kg. Classified by Chemicals (Hazard Information and Packaging for Supply) Regulations as harmful in contact with skin.

Eye contact: Severe eye irritation in rabbit. Risk of serious damage to eyes. Always wear suitable eye protection when handling chemicals.

Inhalation: LC_{50}/inhalation/4h/rat = 6.26 mg/l. Classified by Chemicals (Hazard Information and Packaging for Supply) Regulations as harmful by inhalation.

Further information: Not teratogenic, mutagenic or carcinogenic.

12. ECOLOGICAL INFORMATION

Mobility: Fairly mobile, but rapidly degraded in aerobic soils.

Persistence and degradability: Rapidly degraded in aerobic soils (aerobic half-life MCPA = 24 days)

Bioaccumulation: Potential for bioaccumulation is low based on log P_{ow} (=-0.71 at pH 7 for MCPA)

Ecotoxicity effects: Fish: low toxicity
LC_{50}/96h/rainbow trout = 101 mg (MCPA DMA 500 g/l)/litre
EC_{50}/48h/Daphnia = 78 mg/MCPA DMA 500/ l

13. DISPOSAL CONSIDERATION

Controlled incineration:
Stable under normal temperatures and pressures. Incineration at high temperatures (1000ºC) equipped with an afterburner and scrubber with sufficient resistance time leads to complete detoxification and destruction and is the most environmentally acceptable method for disposal.

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Packaging product waste:
Combustible containers should be disposed of in incinerators or in specified landfill sites. Non-combustible containers must be triple rinsed with water, punctured and disposed of in specified landfill areas. Comply with local and national regulations.

14. TRANSPORT INFORMATION

UN NUMBER: 3082
Road Transport ADR/IRD:
Class: 9
Packing group: III
Shipping name: Environmentally hazardous substance, Liquid, N.O.S. (MCPA-potassium salt 400 g/ℓ)
Maritime Transport IMDG/IMO:
Class: 9
Packing group: III
Shipping name: Environmentally hazardous substance, Liquid, N.O.S. (MCPA-potassium salt 400 g/ℓ)

15. REGULATORY INFORMATION

Symbol:	Xn
Risk phrases:	
R 22	Harmful if swallowed
R 36/37/38	Irritation to eyes, respiratory system and skin.
R 41	Risk of serious damage to eyes
Safety phrases:	
S 13	Keep away from food, drink and animal feedstuffs
S 23	Do not breathe vapour or spray
S 36	Wear suitable protective clothing
S 45	In case of accident or if you feel unwell, seek medical advice immediately

16. OTHER INFORMATION

FARMAG MCPA is the property of FARMAG INTERNATIONAL (PTY) LTD

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. All information is given in good faith but without guarantee on respect of accuracy, and no responsibility is accepted for errors or omissions or the consequence thereof.

REFERENCES:

- *Similar product MSDS*
- *The Manual; Eleventh Edition; Editor Clive Tomlin; Crop Protection Publications, 1997.*
- *Dangerous Goods Regulations; IATA International Air Transport Association, 41st Edition, Effective 1 January 2000.*
- *IMDG Code, Vol 2, 2000 Edition/.*
- *EXTOXNET, Information Profiles, Revised June 1996.* The primary files are maintained and archived at the Oregon State University.