agriculture,
forestry & fisheries

Department:
Agriculture, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

FOR OFFICIAL USE ONLY

CERTIFICATE OF REGISTRATION: FERTILIZER

GROUP III FERTILIZER

FERTILIZER, FARM FEEDS, AGRICULTURAL REMEDIES AND STOCK REMEDIES ACT, 1947 (ACT NO. 36 OF 1947)

1. This is to certify that the fertilizer mentioned below and the label attached hereto comply with the requirements of Act No. 36 of 1947 and the regulations promulgated there-under and that it has been registered by me:

   1.1 Registration Number awarded.....**M 82**

   1.2 Name Fertilizer.....**Ecofarma Humegro DKP**

   1.3 Name of applicant:.....**Ecofarma Southern Africa (Pty) Ltd**

   1.4 Type of product.....

   1.5 Customs tariff code.....

2. This registration is subject to the following conditions:

   2.1 That the registration is only valid for three (3) years and must be renewed **30 September 2022**

   2.2 That only facsimiles of the attached approved label may be used.

   2.3 The type and container size must conform to the sizes as stated in paragraph 6 on page 4 of the application form.

   2.4 That the container in which the fertilizer is offered for transport shall conform to the applicable packaging specifications as laid down by SABS Code of Practice 0229.

   2.5 That if the source of active ingredient is changed the Registrar must be informed in writing.

   2.6 That the printed labels, cartons, pamphlets and package inserts be submitted within 2 (two) months from the date of registration in duplicate.

   2.7 That all adverse effects, including adverse reactions, toxicity, misuse, formulation deviation or any other undesirable effect caused by this product must be reported immediately to the Registrar: Act No. 36 of 1947 by the registration holder.

3. The granting of this registration does not exempt anybody from the requirements of any other Law.

Dept van Landbou, Bosbou en Visserye
Privaatsak/Private Bag x343
Pretoria 0001
Dept of Agriculture, Forestry and Fisheries

DATE
2019 -09- 30

.....
REGISTRAR: ACT NO. 36 OF 1947/

M62

ECOFARMA SOUTHERN AFRICA (PTY) LTD

ECOFARMA HUMEGRO DKP

FERTILIZER GROUP 3

Registration number B/K .....Act 36 of 1947

REGISTERED PLANT NUTRIENT CONTENT	
Phosphorus	56.6 g/kg
Potassium	157.2 g/kg
Humic Acid	7.01 g/kg

C 44.2 g/kg
SG 1.34
pH 10.56

Application rate: 84 Litres/ha

VOLUME/MASS: 25L, 50L and 1000L

Store in tightly closed original container in a well-ventilated place

Ecofarma Southern Africa (Pty) Ltd
Reg. No.: 2016/388451/07
Unit 3 Pretoria Industrial Park, 50 Delfos Road
Pretoria Industrial, Tshwane, RSA
Tel. no. 064 727 7927
E-mail: info@ecofarma.co.za

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2019 -09- 30
REGISTRATEUR .. WET 36/1947
REGISTRAR .. ACT 36/1947

BATCH NO _____

DATE OF MANUFACTURE_____

M62

ANNEXURE C

DEPARTMENT OF AGRICULTURE

CONFIDENTIAL

FERTILIZERS, FARM FEEDS, AGRICULTURAL REMEDIES AND
STOCK REMEDIES ACT, 1947
Registrar: Act 36 of 1947
Agriculture Place, 20 Beatrix Street, Pretoria
Private Bag X343, Pretoria, 0001

APPLICATION FOR REGISTRATION OF A FERTILIZER

TO BE COMPLETED IN DUPLICATE

1. **Applicant**

1.1 Name of applicant: Ecofarma Southern Africa (Pty) Ltd

1.2 Registration number of company: 2016/388451/07

2. **Address of applicant**

2.1 Postal address: 149 Industrial Road, Kaya Sand, Johannesburg

2.2 Postal code: 2163

2.3 Street address: Unit 3, Pretoria Industrial Park, 50 Delfos Rd, Pretoria Industrial, Tshwane

2.4 Dialling code:

Telephone number: 064 727 7927

Fax number:

E-mail: info@ecofarma.co.za

2.5 Indicate the following: Is the applicant the	Importer:
	Manufacturer: X
	Seller: X

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2019 -09- 30
REGISTRAR ... WET 36/1947
REGISTRAR ... ACT 36/1947

3. **Manufacture and formulation**

3.1 Name of manufacturer: Ecofarma Southern Africa (Pty) Ltd

3.2 Postal address: 149 Industrial Road, Kaya Sand, Johannesburg

3.3 Postal code: 2163

3.4 Physical address (Street address): Unit 3, Pretoria Industrial Park, 50 Delfos Rd, Pretoria Industrial, Tshwane

3.5 Dialling code:

Telephone number: 064 727 7927

Fax number:

E-mail: info@ecofarma.co.za

(if more than one manufacturing point for this product, indicate this on a separate annexure.)

3.6 Sterilizing plant (Where applicable): _____

Registration number: _____

3.7 Initials and surname(s) of person(s) responsible for formulations:

Mr PV Mashele

3.8 Qualifications: Pr. Sci. Nat.(Soil Science)

3.9 Professional registration number: SACNASP 114298

4. **Particulars of product**

4.1 Trade mark (acknowledged or registered in terms of the Trade Marks Act (Act 62 of 1963) (if any)): no

4.2 Trade Name: 4. Ecofarma Humegro DKP

4.3 How will the product be sold:

Bulk	: 1000 Litres
Containers	: X

4.4 Type and size of container

Polyprop Bag	:
Plastic Bag	:
Drum	: 25 litres
Glass Bottle	:
Plastic Bottle	:
Other (specify)	:

4.5 Registration number if previously registered: no_____

5. Product and formulation details

PRODUCT 1: Ecofarma Humegro DKP

COMPOSITION:

g/kg
P 56.6 g/kg K 157.2 g/kg Humic Acid 70.1 SG 1.339 **C 44.2 g/kg** pH 10.56

RAW MATERIAL INFORMATION				%	PRODUCT COMPOSITION (g/kg) or (mg/kg for micro-elements)											
Constituent	**Reg. Nr.**	**Plant nutrient content %**		**USED**	**N**	**P**	**K**	**S**	**Ca**	**Mg**	**Zn**	**Cu**	**Mn**	**Fe**	**B**	**Mo**
Ecofarma Humegro DKP		P K	5.66 15.72	100		56.6	157.2									
TOTAL				**100**		**56.6**	**157.2**									

Humic Acid 7.01% ,

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2019 -09- 30
REGISTRATEUR .. WET 36/1947
REGISTRAR .. ACT 36/1947

6. Direction for use: All packaging, less than 20kg or 20 litres:

7. Additional wording requested for use on label (if any): _____

_____

8. Claims for products other than fertilizer: _____

_____

9. Additional information attached in support of application: _____

_____

DECLARATION

I hereby certify that the information furnished in this application is to the best of my knowledge true, correct and complete.

T. W Mgwaya
INITIALS AND SURNAME

SIGNATURE: _____

Consultant
CAPACITY

DATE: 11-07-2019

(Any person who in any application makes any statement which is false in any material respect, knowing it to be false, or fails to disclose any information with intent to deceive, shall be guilty of an offence.)

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The Registrar (Act 36 of 1947)

The registration is recommended ..... ☑ *Not recommended ..... ☐

Technical Adviser ..... Date 10/09/2019

*Any reason for not recommending an application for registration or any conditions that should be imposed on the registration must be attached in the form of a minute.

GOEDGEKEUR/APPROVED
2019 -09- 30
REGISTRATEUR .. WET 36/1947
REGISTRAR .. ACT 36/1947

TECHNICAL ADVISER'S COMMENTS:

omnia
NUTRIOLOGY • NUTRILOGIE*

Certificate of Analysis

Certificate number: C0284-05-16

Date: 5 July 2019

Customer: ECOFARMA SA

Analyte	Unit	Ecofarma Humegro DKP
Humic Acid	m/m %	7.01
Phosphorous	m/m %	5.66
Potassium	m/m %	15.72
pH (as is)	-	10.56
Density	g/cm^3	1.339
Carbon	m/m %	4.42
Zinc	m/m ppm	160
Copper	m/m ppm	108
Nickel	m/m ppm	0.36
Chromium	m/m ppm	0.67
Arsenic	m/m ppm	0.25
Selenium	m/m ppm	0.21
Cadmium	m/m ppm	0.07
Lead	m/m ppm	0.81
Mercury	m/m ppm	0.01

E Laubscher
Technical Signatory
Chemtech QC

This document has been produced electronically and is valid without a signature.

The results on this analysis report relate only to the sample received. Although intrinsic errors in glassware, instruments and assayed purity of the standard reference material do occur, all reasonable precautions were taken to ensure accurate analyses. Although great care has been taken by Omnia Fertilizer, a division of Omnia Group (Pty) Ltd (Omnia) and its employees in the preparation of the report, Omnia shall under no circumstances be liable for any claim for damages or loss, from any cause whatsoever, whether caused directly or indirectly as a result of any person who utilized the information or act on strength of such report.

* the science of growing • wetenskap vir groei

Omnia Fertilizer • Kunsmis
A division of Omnia Group (Pty) Ltd
'n Afdeling van Omnia Groep (Edms) Bpk
Reg No.• Reg Nr. 2006/013996/07

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Epsom Downs Business Park • Besigheidspark
13 Sloane Street • Sloanestraat 13
Epsom Downs Bryanston 2021
South Africa • Suid-Afrika

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Ecofarma Southern Africa (Pty) Ltd
Reg No: 2016/388451/07
Unit 3 Pretoria Industrial Park, 50 Delfos Road,
Pretoria Industrial, Tshwane, RSA
Email: info@ecofarma.co.za

MATERIAL DATA SAFETY SHEET

ECOFARMA HUMEGRO DKP

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name	Ecofarma HUMEGRO DKP
Alternative Name	
Recommended Use	Agriculture, turf, ornamental
Manufacturer/Distributor	Ecofarma Southern Africa (Pty) Ltd Unit 3, Pretoria Industrial Park 50 Delfos Road, Pretoria Industrial Tshwane, Gauteng, South Africa info@ecofarma.co.za www.ecofarma.co.za
Emergency Telephone Number	+27(0)64 727 7927

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Humic Acid 70.1 g/L (52.4 g/kg) Phosphorous 56.6 g/L (42.3 g/kg) Potassium 157.2 g/L (117 g/kg)
Synonyms/Common Names	Humates, Humic DKP, Di-Potassium-Phosphorous Humic
Category	Group 3 Fertiliser (RSA, Act 36 of 1947)
Registration No.	TBD

SECTION 3 — HAZARDS IDENTIFICATION

Physical hazard	Not applicable
Health Hazard	May cause eye irritation; irritant to the mouth, throat and stomach if ingested.
Environmental Hazard	Not applicable

SECTION 4 — FIRST AID MEASURES

Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Skin Contact	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Cold water may be used.Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.
Most important symptoms/effects: acute or delayed	Irritation of eyes
General information	Seek medical attention if any irritation exists

SECTION 5 — FIRE FIGHTING MEASURES

Extinguishing media	Use Media appropriate for surrounding fire
Special Hazards arising from substance or media	During fire, gases hazardous to health may be formed. Heating (flames) of closed or sealed containers may cause violent rupture of container due to thermal expansion of compressed gases. If exposed to substance refer to section 4.
Advice for firefighter	Approach fire with appropriate firefighting uniform and equipment. Move storage containers away from fire if safe to do so. Keep storage containers cool with water spray if in fire. If firefighter experiences any irritations: he/she must obtain medical attention

SECTION 6 — ACCIDENTAL RELEASE MEASSURES

Personal precautions, protective equipment and emergency procedures	Move people away from spillage. Wear appropriate protective clothing. If possible minimise spillage area. If spillage area is large: contact local authorities
Environmental precautions	Avoid environmental spillage. Contact local authorities in the event of spillage to aquatic environment.
Methods and material for containment and cleaning up	Always wear protective uniform when cleaning up spill. Refer to section 8
Small spill	Clean up with cloth and rinse area with water. Other basic cleaning equipment suitable for clean-up. Clean all equipment after use
Large spill	Contain spillage area by diking spilled material. Absorb with vermiculate
Reference to other sections	Refer to section 13 for suitable disposal

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling	Do NOT ingest (breathing or swallow). Wear protective clothing and observe good industrial hygiene practices. Always wash hands and equipment after handling. Do not eat or drink close to storage of material
Conditions for safe storage, including any incompatibilities	Store in original container. Store in cool dry area out of direct sunlight. Ensure that containers are tightly sealed and prevent mixing of foreign materials unless advised otherwise by manufacturer. Refer to section 10 for incompatible materials.

SECTION 8 EXPOSURE CONTROL/PERSONAL PROTECTION

Control parameters	N/A - No established limits
Engineering controls	Provide eyewash station and suitable ventilation
Exposure controls	
Respiratory	If area does not have good ventilation: wear suitable respiratory equipment.
Eyes	Wear protective glasses or goggles

Skin	Wear appropriate protective clothing and gloves when handling material.
General hygiene considerations	Do not smoke, eat or drink when handling material. Wash clothing and hands regularly.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Dark Brown, Black liquid
Odour	Musty
pH	9-11
Melting/freezing point	N/A
Initial boiling point and boiling range	N/A
Flash point	800 degrees celcius
Evaporation rate	Not measured
Flammability	N/A
Upper flammability or explosive limits	N/A
Lower flammability or explosive limits	N/A
Vapour pressure	Not available
Vapour density	Not available
Specific gravity	1.339
Solubility in water	Yes-soluble
Partition coefficient n-octanol/water (Log Kow)	Not measured
Auto-ignition temperature	Not measured
Decomposition temperature	Not measured
Viscosity	Not measured

SECTION 10 STABILITY AND REACTIVITY

Reactivity	Avoid interaction with heat (flames), oxidizers, acids or alkalis (see details below in this section).
Chemical stability	Stable under normal conditions
Possibility of hazardous reactions	None Known
Conditions to avoid	Temperatures above 49°C and below 0°C
Hazardous decomposition products	None Known

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects	
Oral	Not determined
Inhalation	Not determined
Skin contact	Not determined
Eyes contact	Not determined
Chronic	No data available
Reproductive	No data available
Mutagenicity	No data available

SECTION 12 ECOLOGICAL INFORMATION

Toxicity	No data available
Persistence and degradability	No data available
Bio-accumulative potential	Not measured
Mobility in soil	Not determined
Results of PBT and vPvB assessment	N/A
Other adverse effects	No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods	Dispose of in accordance to local legislation and environmental regulations. Do not dispose of in ponds, waterways or any aquatic environment.
Contaminated product	Do not return contaminated material or spilled material back into uncontaminated material or storage packaging
Packaging	Packaging may be reused or recycled unless packaging is contaminated or broken then it should be discarded in accordance with local legislation.

SECTION 14 TRANSPORT INFORMATION

UN number	N/A
UN proper shipping name	N/A
Transport hazard class(es)	Not regulated as dangerous goods
Packing group	N/A

SECTION 15 REGULATORY INFORMATION

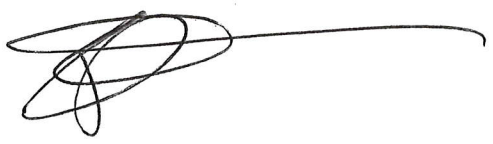
Safety, health and environmental regulations/legislation specific for the substance or mixture	Not classified as a substance hazardous for supply
Chemical safety assessment	Not regulated

SECTION 16 OTHER INFORMATION

Date MSDS Prepared	16 May 2019
Date of Issue	
Date of Previous Issue	
Version	1
MSDS Prepared By	P de Jager

Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



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EVALUATING THE EFFECT OF "Ecofarma Humegro DKP" ON THE YIELD OF MAIZE AND BEANS

INTRODUCTION

The use of soil conditioners and plant growth stimulants to improve/enhance plant growth and fertilizer efficacy is becoming increasingly popular in South Africa. At present there are many new/different products and blends available. When evaluating a new product with possible claims of a stimulation effect the possibility of a detrimental phyto-toxicity effect, must also be evaluated.

SCOPE

The scope of this study was to do a pot trial under controlled environmental conditions to evaluate "Ecofarma Humegrow DKP" at variable application rates on the plant and root biomass production, as well as the possibility of the phyto-toxicity risk.

METHODS AND MATERIALS

Soil A red sandy loam sand soil was used.

Test product and treatments

Based on the recommended application rates as prescribed, the product was applied in combination with a standard 3:2:2(35) fertilizer at 2 grams per pot (Equivalent to 800kg/ha due to the fact that 2 plants per pot equates 350,000 plants per ha. necessitating higher fertilizer application). The product was applied at varying application rates (half, normal and double the recommended rates. This is in line with the requirements of the regulations (Act 36 of 1947) for registering products as a Group 3 fertilizer (M-registration) as a soil conditioner or plant growth enhancer.
The different test product application rates are as set out in Table1.

Table 1. Treatments used in the maize trial

No	Product	Application rate
1	Control (2 g 3:2:2 (35)	2 g/pot
2	Ecofarma Humegrow DKP	42 l/ha
3	Ecofarma Humegrow DKP	84 l/ha
4	Ecofarma Humegrow DKP	160 l/ha

Crops Maize and beans.

Trial layout Pots containing 6 kg of soil were treated as follows: At planting 2 g/pot of a 3:2:2(35) fertilizer mixture was applied as a band in the centre of the pot, 4cm deep. The product was applied with the first irrigation after planting. Treatments were replicated 5 times.
At harvest the plants of the remaining replicates were cut above the soil, weighed (wet mass), oven dried at 65°C and weighed again (dry mass). The replicates of each treatment were pooled and sent to the laboratory for standard chemical analysis (not reported)
After harvest the soil of the different replicates of each treatment were also pooled and after homogenisation, a representative sample was sent to the laboratory for a standard soil chemical analysis (not reported).

Statistics All data analyses were performed using SAS 9.4 statistical software (SAS 2014).
A 10:% level of significance was tested, as the 5% level was viewed as being too strict.
A SAS program was used to calculate the ANOVA's, LSD (Fisher unprotected t-test) and CV.

RESULTS AND DISCUSSION

Yield results

Biomass yield results of maize

The yield results of the maize trial are presented in Table 2. Based on these results the following observation was made.

Treatment 1: The control that received only 3:2:2(35) was used to compare the performance of the different product at different application rates.

Ecofarma Humegrow DKP: The yields were **higher** than the control with normal and double recommended application rates. The double application rate statistically significantly lower than the control.

Table 2. Influence of product on the biomass yield of maize

	Biomass g/pot	
	WET	DRY
Control 2 g 3:2:2 (35)	75.750 ab	6.250 a
Ecofarma Humegrow DKP 42l/h	83.000 ab	5.250 bc
Ecofarma Humegrow DKP 84l/ha	88.750 a	7.000 a
Ecofarma Humegrow DKP 160l/ha	68.250 c	4.500 c
LSD=(p=0.1)	7.626	1.478

Means with the same letters do not differ significantly at the 10% significant level

Biomass yield results of beans

Treatment 1: The control that received only 3:2:2(35) was used as reference to compare the effect of the product on the growth of beans.

Ecofarma Humegrow DKP: Half and double application rates were **statistically significantly higher** than the control on the wet biomass. The normal rate was higher than the control.
All application rates on the dry biomass was **statistically significantly higher** than the control.

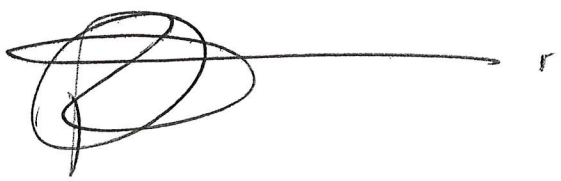

Table 3. Biomass yield of beans at end of trial

Treatment	Biomassg/pot	
	WET	DRY
Control (2 g 3:2:2 (35)	55.750b	5.667c
Ecofarma Humegrow DKP 42l/h	70.000a	9.750a
Ecofarma Humegrow DKP 84l/ha	64.750ab	8.250b
Ecofarma Humegrow DKP 160l/ha	65.000a	8.750b
LSD(p=0.01)	9.12	0.68

Means with the same letters do not differ significantly at the 10% significant level

CONCLUSIONS

Yield results Maize:

- The yields were **higher** than the control with normal and double recommended application rates.
-

Yield results Beans

- All application rates were **statistically significantly higher** than the control.

RECOMMENDATIONS

Registration of "Ecofarma Humegrow DKP" as a Group 3 (M) fertilizer is recommended. No detrimental effects were found.

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Dr. JA Janse van Vuuren