

---

# GOVERNMENT NOTICE

---

## DEPARTMENT OF AGRICULTURE

**No. R. 250**

**23 March 2007**

FERTILIZERS, FARM FEEDS, AGRICULTURAL REMEDIES AND STOCK REMEDIES ACT, 1947  
(ACT No. 36 OF 1947)

### REGULATIONS REGARDING FERTILIZERS

I, Lulama Xingwana has, under section 23 of the Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No. 36 of 1947), hereby -

- (a) made the regulations in the Schedule; and
- (b) determined that the said regulations shall come into operation on date of publication.

## TABLE OF CONTENT

## REGULATIONS REGARDING FERTILIZERS

## 1. Definition

## PART I REGULATIONS

2. Application for registration .....	5-
3. Period of registration .....	1
4. Renewal of registration .....	1
5. Conditional for certain registration and renewal of certain registration .....	.
6. Application for amendment of certain registration and approved labels .....	.
7. Return of registration certificate .....	.

## PART II – APPEALS

8. Submission of appeals .....	7-8
9. Address for submission of appeals .....	8

## PART III

10. Publication or distribution of false or misleading advertisements .....	8
11. Harbours and place through which import may occur .....	8
12. Details to be marked or labeled on containers .....	a

## PART V – PLANTS

13. Practices to be followed at plants .....	8
14. Requirements for establishments .....	8
15. Keeping of records .....	8
16. Packages in which fertilizers may be sold .....	9
17. Labeling and marking of containers of fertilizers .....	10-1
18. Supply of invoices .....	1

## 19. PART VI – GENERAL

20. Payment of fees .....	11
21. Address for submission of items .....	11
22. Repeal of regulations .....	11-12

## ANNEXURE A

## REQUIREMENTS OF REGISTRATION OF FERTILIZERS IN THE REPUBLIC OF SOUTH AFRICA

## PART I

## INORGANIC FERTILIZERS AND GENERAL REQUIREMENTS FOR FERTILIZERS

1. Requirements for Nitrogen Fertilizers .....	13
2. Requirements for Phosphorus Fertilizers .....	13
3. Requirements for Potassium Fertilizers .....	13
4. Requirements for fertilizers that largely contain Calcium, Magnesium and Sulphur as plant nutrients .....	13-14
5. Requirements for a chemically compound fertilizer or a fertilizer mixture that contains nitrogen phosphorus or potassium fertilizer .....	14
6. Requirements for liquid\ fluid fertilizers .....	14
7. Requirements for micro- element fertilizers .....	14-15
8. Requirements for micro - element mixtures .....	15

9. Requirements for the addition of macro – elements.....	15
10. Custom mixes.....	15
11. Samples of fertilizers .....	16
12. Analysis methods.....	16
13. Investigational allowances.....	16
14. Harmful elements.....	16

## PART II

### ORGANIC FERTILIZERS, ORGANIC FERTILIZER MIXTURES AND OTHER FERTILIZERS

1. Requirements for compost.....	16
2. Requirements for municipal compost.....	16-17
3. Requirements for sewage sludge.....	17
4. Requirements for a mixture of municipal compost and sewage sludge.....	17
5. Requirements for composted poultry manure, kraal manure and other manure.....	17
6. Requirements for bat manure.....	17
7. Requirements for guano, carcass, hoof, horn and bone meal.....	17-18
8. Requirements for organic or enriched organic fertilizers mixtures.....	18
9. Requirements in respect of micro – elements in organic fertilizers and enriched organic fertilizer mixtures.....	18
10. Labelling and marking of containers of fertilizers.....	18
11. Sampling of fertilizers.....	19
12. Investigational allowances.....	19
13. Harmful elements.....	19

## PART III

1. Liming materials .....	19
2. Requirements for liming materials .....	19
3. Investigational allowance .....	19
4. Sample of liming material .....	20

## PART IV - SAMPLING OF FERTILIZERS

### THE MANNER OF TAKING, MARKING AND SEALING OF SAMPLES

A. General instructions for the taking of samples .....	20-21
B. Quantitative requirements .....	21-22
C. Taking and preparation of samples .....	22-24
D. Marking, sealing and fastening up of the final sample .....	24

## ANNEXURE B

### TABLES

1. Nitrogen fertilizers .....	25-29
2. Phosphorus fertilizers .....	30-33
3. Potassium fertilizers.....	34-35
4. Fertilizer that contain mainly calcium, magnesium or sulphur.....	36-37
5. Fertilizer mixture containing two or more main plant nutrients.....	37-39
6. Fertilizer mixture containing two or more main plant nutrients.....	40
7. Requirements for micro-nutrients compound that only contain one element .....	41-44
8. Micro – element mixture: minimum content element in g\ kg.....	45
9. Fertilizer that containing both micro – as well macro – elements minimum content per micro element in g\ kg.....	46
10. Approved organic chelating agents.....	47
11. Requirements for urban waste.....	48
12. Classification of sewage sludge to be used or disposed of on land.....	49
13. Requirements for guano and other products derived from animal origin.....	50
14. Enriched organic and organic fertilizer.....	51
15. Requirements for Agricultural lime material (Oven dry basis).....	52
16. Investigational allowances of main and secondary elements inorganic fertilizer.....	

mixture.....	53
17. Investigational allowances of main and secondary elements in chemically compounded fertilizers.....	54
18. Investigational allowance of added micro – elements in fertilizer mixtures.....	55
19. Fertilizer in containers.....	56
20. Loose fertilizers.....	57-58
21. Liquid fertilizers.....	59
22. Port of entry.....	60
<b>ANNEXURE C</b> .....	<b>61-64</b>

**DEPARTMENT OF AGRICULTURE**

No. R.

FERTILIZERS, FARM FEEDS, AGRICULTURAL REMEDIES AND STOCK REMEDIES ACT, 1947  
(ACT No. 36 OF 1947)

**REGULATIONS REGARDING FERTILIZERS**

I, Lulama Xingwana has, under section 23 of the Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No. 36 of 1947), hereby -

- (a) made the regulations in the Schedule; and
- (b) determined that the said regulations shall come into operation on date of publication.

**SCHEDULE**

## Definitions

1. Words and phrases in these regulations shall have the meaning assigned hereto in the Act, and unless the context otherwise indicates -

"Act" means the Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No. 36 of 1947);

"activity index (**AI**)" means the amount of cold water insoluble nitrogen (CWIN) which is soluble in hot water in a urea formaldehyde fertilizer and reflects the rate at which cold water insoluble nitrogen (CWIN) will become available.

"agricultural liming material" means substances of which the calcium and magnesium compounds have the ability to reduce soil acidity and contain no harmful elements;

"amorphous lime" means soft, porous liming materials originating mainly from secondary deposits (as opposed to crystalline, non-porous liming materials mainly of primary origin);

"analysis certificate" means a certificate issued by a laboratory indicating the full chemical and/or physical composition for the particular fertilizer, as required by the registrar;

"application fee" means monies that, in terms of these regulations, are payable for the registration of fertilizers and the annual renewal of such registrations and also include monies payable for the mixing and sale of prescription mixtures;

"blender" means a manufacturer or person who mixes registered fertilizers for sale or someone who mixes such fertilizers on prescription for someone. "Mixer" has the corresponding meaning;

"bulk blending" means the dry mixing of fertilizers;

"**bulk**" means the packaging of a fertilizer other than in a sealed container;

"calcite" means calcium carbonate as it occurs in nature, with a maximum of 9 g/kg magnesium and a minimum of 380 g/kg calcium;

"calcium carbonate equivalent (CCE)" means the acid neutralizing ability of an agricultural liming material expressed as a percentage of the acid neutralising ability of pure calcium carbonate;

"calcium carbonate" means the carbonate of calcium that contains 400 g/kg calcium;

"calcium hydroxide" means the hydroxide of calcium that contains 530 g/kg calcium;

"calcium oxide" means the oxide of calcium that contains 700 g/kg calcium;

"chelate" means the product of a chemical reaction between a metal cation and a chelating agent in which the cation is in a normal oxidation state and is attached to the chelating agent through coordinate covalent bonds;

"chelating agent" means a molecule having two or more sites which donate electron pairs to a central metal cation and is large enough to form a five or six membered ring structure such as EDTA (ethylenediaminetetraacetic acid), NTA (nitrilo-triacetic acid) and IDS (iminodisuccinic acid);

"chemically compounded fertilizer" means a substance which, without it being mixed with another substance, contains one or more of the plant nutrient nitrogen (N), phosphorus (P) or potassium (K), provided that the total plant nutrient content of such fertilizer should be at least 1/3 of the nominal value of a similar pure fertilizer and that all macro-elements that it contains in registerable amounts may be registered;

"complex" means the product of a chemical reaction between a metal cation and a complexing agent, such as metal ions with polyphosphates, lignin sulphate and ammonia;

"complexing agent (sequestering agent)" means a molecule which reacts with a metal cation to form a product of sufficient stability that the cation does not undergo many of its typical reactions such as precipitation in basic solutions;

"composite sample" means the combined incremental samples taken from the same sampled portion;

"compost" means a stabilised, homogenous, fully decomposed substance of animal or plant origin to which no plant nutrients have been added and that is free of substances or elements that could be harmful to man, animal, plant or the environment;

"container" means the packaging in which a measured amount of a fertilizer is offered for sale;

"controlled release fertilizer" means a fertilizer which is coated by an impermeable coating with tiny pores through which the dissolved nitrogen and other nutrients diffuse such as polyethylene film encapsulations or a semi-impermeable coating through which water diffuses until the internal solution pressure is sufficient to cause disruption such as polyolefin coated fertilizers or a continuous impermeable coating that must be broken by chemical, microbial or abrasive action before the water soluble contents are released such as sulphur coated urea - SCU, so as to release a nutrient or nutrients gradually over time where the rate of release is governed by the properties of the coating;

"custom mix" means a mixture compiled on the written advice of a qualified person for a specific client or a mixture of registered materials mixed at the written request of an end user. Prescription mixture shall have a corresponding meaning;

"dry matter basis" means, in the case of liming materials dried at 105°C to constant mass, provided that in the case of substances that react with carbon dioxide (CO<sub>2</sub>) the atmosphere in the oven be replaced with an inert gas such as nitrogen (N<sub>2</sub>);

"enrich" means the addition of registered inorganic fertilizers to registered organic fertilizers in order to raise the plant nutrient content of the organic fertilizer, provided that the total N, P and K must be a minimum of 100 g/kg and "enriched" has a corresponding meaning;

"enriched organic fertilizer" means a mixture of registered organic fertilizer with registered inorganic fertilizer that contains a minimum of 330 g/kg organic fertilizer, excluding urea;

"fertilizer material" means an organic or inorganic material that contains one or more plant nutrient in the prescribed amounts and is intended or offered for use to improve or maintain the growth of plants or the fertility of soil;

"fertilizer mixture" means a physical mixture of two or more chemically compounded fertilizers or organic fertilizers that contain two or more of the plant nutrients nitrogen (N), phosphorus (P) and potassium (K) as indicated in the tables (Annexure B);

- "**final samples**" means a replicate representative part of the reduced sample or, where no intermediate reduction is required, the composite sample maybe regarded as identical sub-samples of the sampled portion;
- "**fulvic acid**" means the organic substances of indefinite composition which remain in solution when an aqueous, alkaline extract of organic matter or soil is acidified;
- "**granules**" mean products formed layer-by-layer in a granulator through a tumbling action under controlled conditions *to* form almost spherical particles. The particle size distribution of granules is wider than that of pellets;
- "**guano**" means the excrement of seabirds, as it occurs in nature;
- "**house and garden fertilizer**" means a fertilizer manufactured, recommended, packaged and offered for sale for use on pot plants and in home gardens and not intended for agricultural use;
- "**humates**" means salts of humic acids:
- "**humic acid**" means a mixture of dark-coloured substances of indefinite composition extracted from soil with dilute alkali and precipitated by acidification to pH 1 to 2 as well as similar material in coal deposits and other organic matter;
- "**incremental sample**" means a quantity taken from one point in the sampled portion;
- "**incremental sampling point**" means a selected constituent part of, or position in the sampled portion from which an incremental sample is taken;
- "**invoice**" means an accompanying letter, delivery note or weighbridge ticket, receipt note or receipt;
- "**label**" means any written, printed or graphic representation attached to a container of a fertilizer or produced on a container in any possible manner and which states the details required in terms of these regulations for the particular fertilizers and "**labelled**" has a corresponding meaning;
- "**low chlorine**" means a fertilizer mixture with the maximum chlorine content as prescribed in regulation 5(2);
- "**macro-element**" means any of the elements nitrogen (N), phosphorus (**P**), potassium (K), calcium (Ca), magnesium (Mg) and sulphur (**S**);
- "**macro-pellet**" means particle sizes that are noticeably larger than those of "pellets" as described in Tables 2 to 5 and "**macro granule**" has a corresponding meaning;
- "**magnesite**" means magnesium carbonate, as it occurs in nature, that contains a maximum of 10 g/kg calcium and a minimum of 275 g/kg magnesium;
- "**magnesitic**" means magnesium carbonate that contains a minimum of 190 g/kg magnesium;
- "**magnesium carbonate**" means the carbonate of magnesium that contains 280 g/kg magnesium and no calcium;
- "**magnesium hydroxide**" means the hydroxide of magnesium that contains 410 g/kg magnesium and no calcium;
- "**magnesium oxide**" means the oxide of magnesium that contains 600 g/kg magnesium and no calcium;
- "**manufacture**" means make, compound, mix, formulate, process, package and label for purpose of sale and "manufacturing" and "manufacturing process" have a similar meaning;
- "**micro-element**" means any of the elements iron (Fe), zinc (Zn), copper (Cu), molybdenum (**Mo**), manganese (Mn), boron (B);

- "**micro-pellet**" means particle sizes that are noticeably smaller than those for "pellets";
- "**municipal compost**" means the disinfected and stabilised organic fertilizer manufactured by the controlled decomposition of sorted and milled urban waste including fermentable industrial and commercial waste;
- "**municipal waste**" means any municipal compost that does not meet the requirements for compost given in these regulations: on the understanding that such waste must meet the minimum requirements for municipal waste as set out in the regulations for the registration of fertilizers;
- "**manufacturer**" means an individual or undertaking that manufactures or mixes fertilizers;
- "**organic fertilizer**" means a fertilizer manufactured from substances of animal or plant origin, or a mixture of such substances, and that is free of any substances that can be harmful to man, animal, plant or the environment containing at least **40 g/kg** prescribed plant nutrients;
- "**organic fertilizer mixture**" means a mixture of registered organic fertilizers;
- "**pellet**" means elongated cylindrical particles formed from wet cylindrically extruded material, cut to the desired length and then dried. No more than 10% remain on a **4 mm** sieve and no more than 10% pass through a **1 mm** sieve: provided that 90% fall within the interval of **1 mm** to **4 mm** and provided that the sieve size on which 10% of the particles remain contains openings that are not more than three times larger than those of the sieve on which 95% of the particles remain;
- "**pelleted**" means the manufacture of a fertilizer in pellet form;
- "**physical quality assurance**" means a test carried out to evaluate the fineness of a liming material and the pellet size of chemically compounded fertilizers or mixtures;
- "**plant growth or soil enhancer**" means a natural or synthetic substance(s) or organism(s) that improve(s) the growth or yield of plants or the physical, chemical or biological condition of the soil;
- "**plant nutrient**" means an essential macro- or micro-element present in a fertilizer;
- "**powder**" means particle sizes that are noticeably smaller than those for micro-pellets;
- "**reduced samples**" means a representative part of the composite sample obtained from the latter by a process of reduction, reduced to a suitable size for final division;
- "**registered name**" means the name approved by the Registrar under which a fertilizer is registered and may be sold: provided that in the case of an organic fertilizer such name must reflect the main component of such fertilizer;
- "**sampled portion**" means an identified and specified quantity of a material constituting a unit and having characteristics presumed to be uniform;
- "**sample splitter**" means an apparatus designed to split a sample into two or more equal parts;
- "**scoop**" means a sampling instrument with which samples of fertilizers occurring in bulk can be taken;
- "**sealed**" means to close a container in such a visible manner with a mechanism that will break visibly the first time the container is opened;
- "**sewage sludge**" means the disinfected and stabilised organic fertilizer manufactured from the treatment of raw sewage sludge;
- "**shell lime**" means an agricultural liming material of which the calcium and magnesium carbonate originates exclusively from sea animals;
- "**sieve test**" means a wet sieve analysis for liming materials;



"slags" mean a mixture of the silicates of calcium and magnesium obtained from the iron and steel industry that are capable of reducing soil acidity and that contain a minimum of 300 g/kg silicon oxide ( $\text{SiO}_2$ );

"slaked calcitic" means calcium hydroxide with a maximum of 43 g/kg magnesium and a minimum of 700 g/kg as hydroxide;

"slaked dolomitic" means the hydroxide of calcium and magnesium with a minimum of 40 g/kg magnesium and a minimum of 700 g/kg hydroxide;

"slaked magnesitic" means magnesium hydroxide with a maximum of 40 g/kg calcium and a minimum of 700 g/kg as hydroxide;

"slaked" means the hydroxides of calcium and magnesium or a mixture thereof that contains at least 800 g/kg hydroxide;

"slow release fertilizer" means a fertilizer containing a plant nutrient in a form which delays its availability for plant uptake and use after application, or which extends its availability to the plant significantly longer than a reference "rapidly available nutrient fertilizer" such as ammonium nitrate or urea, ammonium phosphate or potassium chloride;

"solution" means a homogenous liquid containing the plant nutrients in true solution;

"sterilisation installation" means an installation used for the sterilisation of substances derived from animals and destined for use as a fertilizer according to a process approved by the registrar for this purpose;

"suspension" means a solution in which undissolved substances may be present;

"tolerance" means the permitted deviation in the natural variation of the stated value of a fertilizer that occurs in manufacture, sampling and chemical analysis, where the deviation is expressed as a percentage of the stated value of the fertilizer;

"trademark" means a mark to which the holder of the registration has the right, either as owner or a registered user thereof, to distinguish his fertilizer from that of any other manufacturer but excludes the registered name of a fertilizer as intended in these regulations;

"unslaked calcitic" means calcium oxide with a maximum of 43 g/kg magnesium and a minimum of 700 g/kg as oxides;

"unslaked dolomitic" means the oxides of calcium and magnesium with a minimum of 43 g/kg magnesium and a minimum of 700 g/kg oxides;

"unslaked magnesitic" means magnesium oxide with a maximum of 43 g/kg calcium and a minimum of 700 g/kg as oxides; and

"unslaked" means the oxides of calcium and magnesium or mixtures thereof that contain a minimum of 800 g/kg oxides.

## PART I - REGISTRATIONS

### *Application for Registration*

2. (1) An application in terms of section 3(1) of the Act for registration of a fertilizer, must be made on a form available from the Registrar for the purpose, or a clearly legible facsimile thereof on good quality A4 size paper of the same colour as the form supplied by the Registrar.

Such application must -

- (a) be made by a person residing in the Republic of South Africa or, in the case of a legal person that legal person shall have a registered office in the Republic;
  - (b) be accompanied by the prescribed application fee;
  - (c) be accompanied by two copies of a typed version of the details relating to the particular fertilizer that will be marked on the container in which it will be sold, or will be attached to the label of such container;
  - (d) be accompanied by a sample of the particular fertilizer containing at least 100 ml in the case of a liquid fertilizer and 100 g in the case of a dry fertilizer, when requested by the Registrar;
  - (e) be accompanied by a copy of the experimental results detailing the biological efficiency of the particular fertilizer: provided that the Registrar may grant exemption for submission of a sample or a submission as intended in subregulation (d) and (e);
- (9) be accompanied, when required by the Registrar, by a risk assessment.

#### ***Period of registration***

3. (1) Apart from the provision of sections 4 and 4A of the Act, a fertilizer registration in terms of section 3 of the Act shall lapse on 31 December of each year.

(2) Should a registration be granted during a particular calendar year within three months of the date of lapsing intended in subregulation (1), such registration shall be applicable to the particular date of lapsing in the following calendar year.

#### ***Renewal of registration***

4. (1) An application in terms of section 3(4)(a) of the Act for renewal of registration of a fertilizer, must be made on a form available from the Registrar for the purpose, or a clearly legible facsimile thereof on good quality A4 size paper of the same colour as the form supplied by the Registrar.

(2) Such an application must -

- (a) depending on the case, be made by the person to whom the applicable registration certificate has been issued;
- (b) be received no later than the date of lapsing intended in subregulation 3(1); on the proviso that should documentary proof be submitted of the timeous despatch of the application, such application shall be deemed to have been received on time;
- (c) be accompanied by the prescribed fee;
- (d) be accompanied by two copies of facsimiles of all labels used in connection with the sale of the fertilizer: provided that the Registrar may, depending on the circumstances, exempt the applicant from the provisions of this regulation.

(3) Apart from the determinations of subregulation 2(b) an application in terms of subregulation 4(1) received by the Registrar after 31 January of a particular year will not be considered and a new application must be made for the registration of the respective fertilizer in terms of regulation 2: provided that the Registrar may grant exemption from submission of the application form as intended in subregulation 2(1).

(4) Anyone applying for renewal of a registration in terms of this regulation must submit a sworn statement that the information he supplies with such application for the particular fertilizer, or a label used in connection therewith, does not deviate in any respect from the comparable details that have already been registered or approved with respect to that fertilizer or label: Only the original of each application can be so declared or confirmed.

**Conditions for certain registrations and renewal of certa in registrations**

(5) A registration and the renewal of a registration of a fertilizer, in terms of section 3 of the Act, is granted on condition that during the period of registration or a renewal or registration -

- (1) the composition of the particular fertilizer does not deviate by more than the allowable deviations under which it was registered;
- (2) the details approved for use on a label or container for sale of the particular fertilizer may not be altered without the prior written approval of the Registrar; and
- (3) the particular registration may not be transferred in any manner or aspect to anyone else.

**Application for amendment of certa in registrations and approved labels**

6. (1) Should anyone in whose favour a fertilizer is registered, contemplate any alteration to its registered composition or a change to the details approved for use on a label, he should apply to the Registrar in the manner intended in regulation 2.

(2) Such application should be accompanied by the applicable documentation, the current registration certificate and application fee stated in regulation 2(1)(b): provided that the Registrar may waive the application fee should the particular change or alteration be in the public interest.

**Return of registration Certificate**

7. A registration certificate that is returned in terms of Section 4A(3) of the Act, should reach the Registrar -

- (1) within 14 days of the day on which -
  - (a) the person to whom the particular registration certificate has been issued is informed in writing in terms of Section 5 of the Act of the reason for withdrawal of such registration; or
  - (b) the registration of the fertilizer has expired in terms of Section 4A(2) of the Act.

**PART II - APPEALS**

**Submission of appeals**

8. (1) An appeal in terms of section 6 of the Act must be lodged within 60 days after the date on which the reasons on which the appeal is based have been furnished in terms of section 5 of the Act, to the Director-General: Department of Agriculture.

- (2) Such an appeal must:
  - (a) be in the form of a written statement that has been sworn or confirmed as envisaged in regulation 4(4);
  - (b) contain the reference number and date of the notification by which such a person or applicant has been informed of that decision;
  - (c) indicate the grounds on which such an appeal is based;

- (d) be accompanied by the documentation relating to the subject of the appeal'
- (e) be accompanied by the applicable fee

(3) If such an appeal is made by someone other than the person against whom the decision has been made the specific appeal must be accompanied by a statement indicating the interest of the particular party in that decision or steps.

(4) The prescribed fee intended in regulation 8(2)(e) should be paid by cheque, postal order or money order exchange in favour of the Director-General: Department of Agriculture: provided that should the particular appeal be delivered by hand such amount may be paid in cash.

#### ***Address for submission of appeals***

9. An appeal as intended in regulation 8(1) must:

- (a) When sent by post, be addressed to the Director-General: Department of Agriculture, Private Bag X343, Pretoria, 0001; and
- (b) When delivered by hand, be delivered to the Director-General: Department of Agriculture, Agriculture Place, 20 Beatrix Street, Pretoria.

### **PART III - ADVERTISEMENTS**

#### ***Publications or distribution of false or misleading advertisements***

10. (1) Advertising shall require approval by the Registrar and must conform to the approved registration as well as the standards of the Advertising Standards Authority of South Africa.

(2) Specific scientific claims in an envisaged advertisement must be submitted for approval to the Registrar.

- (3) No person may publish or distribute a false or misleading advertisement for a fertilizer.

### **PART IV - IMPORTS**

#### ***Harbours and place through which import may occur***

11. (1) A fertilizer must be imported through the ports of entry referred to in Table 22.

#### ***Details to be marked or labelled on containers***

12. A container in which an imported fertilizer for sale in the Republic is packaged must, in addition to any details that the Registrar may approve, must be marked or labelled with the details that a comparable fertilizer, manufactured in the Republic, would be required to have.

### **PART V - PLANTS**

#### ***Practices to be followed at plants***

13. (1) The practices relating to the running of an undertaking at a plant and relating to the manufacture, control, packaging, marking or labelling of a fertilizer for the purposes of sale thereof must be such that the composition and efficacy of the particular fertilizer meet the requirements in terms of which it was registered and that it possesses all the chemical, physical and other properties so registered.

(2) Raw materials used for the manufacture of a fertilizer must be handled and stored such that:

- (a) it is protected against damage, pollution and deterioration;
- (b) access can be reasonably gained to the different raw materials and fertilizers

(3) Chemical and physical quality control must be carried out regularly on raw materials used for the manufacture of a fertilizer and of the fertilizer manufactured from such raw materials by the person in whose favour the fertilizer is registered or by a laboratory in the Republic of South Africa acceptable to the Registrar.

(4) The person in charge of a plant and responsible for the manufacture, control, packaging, marking or labelling of a fertilizer or liming material must have sufficient knowledge of the practices to be followed in running the undertaking at such a plant and of the provisions of the Act.

(5) Raw materials either stored loose or in containers and to be used in the manufacture of the fertilizer, must be clearly identifiable.

(6) In the event that the fertilizer is not packed or labelled immediately after manufacture, its name shall be shown on the containers in which or the place at which it is stored.

#### ***Requirements for establishments***

14. (1) The premises where a fertilizer is manufactured, controlled, packed, marked, labelled or stored for the purpose of sale shall be kept orderly and clean and shall be duly registered under the Occupational Health and Safety Act, Act No. 85 of 1993.

(2) The facilities and equipment which are available at an establishment shall be suitable for the purpose for which it is to be used to ensure that the composition of the fertilizer manufactured, controlled, packed, marked, stored or labelled there complies with the particulars registered in respect thereof, and that such fertilizer possess the chemical, physical and other properties thus registered.

(3) The area within the facility which is used to carry out a specific function in connection with the manufacture, control, packaging, labelling or warehousing of a fertilizer shall be appropriate for the proper execution of the particular function.

#### ***Keeping of records***

15. (1) The person managing the plant must keep complete records in respect of each fertilizer that is manufactured, controlled, packaged or labelled including but not limited to:

- (a) the results of quality control carried out in terms of regulation 13(3) of the raw materials used in the manufacture of the fertilizer and of such fertilizer; and
- (b) complaints that have been received relating to the composition of the fertilizer or to the chemical, physical or other properties thereof.

(2) The records kept in terms of subregulation 15(1) as well as the formulation of fertilizers manufactured at the plant, must be kept at such plant or other place approved by the Registrar, for at least two years after the date on which the particular fertilizer was manufactured.

#### ***Packages in which fertilizers may be sold***

16. (1) Notwithstanding the provisions of the Trade Metrology Act, 1973 (Act No. 77 of 1973), a fertilizer may only be sold in containers that have been sealed or closed in a manner allowed by the nature of the fertilizer and containers and shall be labelled or marked in terms of the provisions of Regulation 17.

(2) Notwithstanding the provisions of subregulation (1) a fertilizer may be sold in a manner other than in containers if:

- (a) it is the same in all respects with the product that is sold in containers:
- (b) the requirements of these regulations are met.

**Labelling and marking of containers of fertilizers**

**17. (1)** The following details relating to a fertilizer must be printed on a label affixed to a container of such a fertilizer or marked on such container and such details should appear in the following order:

- (a) The registered trade mark, if applicable, and the trade name under which such fertilizer has been registered;
  - (b) The registered name of such fertilizer.
  - (c) The registered plant nutrient present in such fertilizer, expressed in the form and manner intended in subregulation (2).
  - (d) The registration number of such fertilizer together with a reference to the Act, expressed as "Reg Nr. .... Act No. 36 of 1947".
  - (e) The mass in the case of a solid and the volume or mass in the case of a liquid of such fertilizer at the time of packaging thereof, notwithstanding the provisions of the Trade Metrology Act, **1973 (Act No. 77 of 1973)**; and
- (9)** The name, address and contact details of the registration holder.

**(2)** The details referred to in subregulation 1(c) above are those that, in terms of Part 1 of Annexure A, paragraphs 1 to 9 of the Requirements for the Registration of Fertilizers in the RSA, are required or approved to be indicated, and

- (a) the element symbol of the particular plant nutrient must be followed by the registered content of the plant nutrient expressed in g/kg for macronutrients and mg/kg for micronutrients, rounded off to the lower whole number;
- (b) should more than one plant nutrient require to be indicated, the details given in subregulation 2(a) should be given with respect to each such plant nutrient in the order required or approved;
- (c) besides the details in subregulation 1(a) and (b) the details in Annexure A should be given;
- (d) should the sum of the total plant nutrients be given it should be given between brackets after the details indicated in subregulations 2(a), (b) and (c); and
- (e) in the case of a low chlorine mixture indicating the potassium carrier is optional.

**(3)** The details mentioned in subregulations (1) and (2) must be given on one label that is affixed to one side of the container of the particular fertilizer or given on one side of such container and such details shall be clearly legible symbols, letters and figures. Print size of **8** points is recommended where applicable.

**(4)** Instructions for use in respect of a fertilizer must appear on a label that is affixed to the container of such a fertilizer or if space on such label is limited on the back of the container or on a pamphlet placed in such container or accompanying the invoice as intended in regulation **18** provided that instructions for use are compulsory in the following cases:

- (a) if such a fertilizer has been registered to be applied by foliar application;
- (b) if such a fertilizer is also registered as an animal feed, agricultural product or animal product in terms of the Act;
- (c) if such a fertilizer is intended for use in hydroponics;
- (d) if such a fertilizer is a home or garden fertilizer.

(5) The instructions for use in subregulation (4) or those that may be used optionally must be as approved by the Registrar.

#### Supply of invoices

18. (1) Should a fertilizer with the exception of a prescription mixture be sold loose:
- (a) the invoice must contain the details required in Regulation 17;
  - (b) a sample of the fertilizer, excluding agricultural lime and organic fertilizers, shall be taken provided that such sample:
    - (i) is taken by a method described in Annexure A;
    - (ii) it is divided into two containers of at least 250 g or 250 cm<sup>3</sup> that are sealed and labelled in such a manner that the fertilizer can easily be identified as that described in the invoice;
  - (c) one container of sample referred to in subparagraph (ii) must accompany the invoice and the other be retained by the seller for at least 6 months.
- (2) On delivery, an invoice must be handed over to the person to whom the fertilizer is delivered or his representative: provided that such a person acknowledge receipt of same in writing.

#### PART VI -GENERAL

19. Anyone who refuses or omits to comply with the provisions of the Regulations is guilty of an offence and on proof of guilt liable to a fine or imprisonment.

#### Payment of fees

20. (1) The postal and delivery costs of an application or article submitted in terms of these regulations must be paid by the sender.
- (2) Monies payable in terms of these regulations must be paid by cheque, postal order or money order in favour of the Director-General: Department of Agriculture: Provided that if such monies are delivered by hand, they may be paid in cash.
- (3) Monies paid in terms of these regulations, except in terms of Section 6 of the Act, are not refundable.

#### Address for submission of items

21. An application or item or anything connected therewith that in terms of these regulations needs to be submitted to the Registrar, must:
- (a) When sent by post, be addressed to the Registrar: Act No. 36 of 1947, Private Bag X343, Pretoria, 0001; and
  - (b) When sent by rail or delivered by hand, be addressed to or delivered to the Registrar: Act No. 36 of 1947, Agriculture Place, 20 Beatrix Street, Pretoria.

#### Repeal of regulations

22. The undermentioned regulations are hereby repealed:
- (1) Government Notice R. 799 of 20 May 1977;
  - (2) Government Notice R. 473 of 14 March 1980;
  - (3) Government Notice R. 472 of 14 March 1980;

- (4) Government Notice R. 1651 of 26 August 1977;
- (5) Government Notice R. **1449** of 1 July 1983 in **as much as** it ~~refers~~ to fertilizers.



## ANNEXURE A

## REQUIREMENTS FOR THE REGISTRATION OF FERTILIZERS IN THE RSA

## PART I

## INORGANIC FERTILIZERS AND GENERAL REQUIREMENTS FOR FERTILIZERS

**1. Requirements for Nitrogen Fertilizers**

A fertilizer that contains nitrogen as main plant nutrient shall only be designated, registered and sold under a name in Column 2 of Table 1 if:

- (a) it is chemically composed as indicated in column 3 of Table 1;
- (b) the nitrogen content thereof meets the requirements of column 4 of Table 1;
- (c) it meets the relevant requirements in columns 5 and 6 of Table 1;
- (d) the information in column 6 of Table 1 is provided in terms of Regulation 17(1)(c).

**2. Requirements for Phosphorus Fertilizers**

(1) A fertilizer that contains phosphorus as main plant nutrient shall only be designated, registered and sold under a name in Column 2 of Table 2 if:

- (a) it is chemically composed as indicated in column 3 of Table 2
- (b) the phosphorus content thereof meets the requirement specified in column 4 of Table 2;
- (c) it meets the further relevant requirements specified in column 5 of Table 2;
- (d) the information in column 6 of Table 2 is provided in terms of Regulation 17(1)(c).

(2) Besides the information in column 6 of Table 2 in terms of Regulation 17(1)(c), the following additional information must be provided in the case of:

- (a) calcium magnesium phosphate, the expression "pellet" or "powder" immediately after the name "calcium magnesium phosphate" to indicate the form in which it is sold;
- (b) raw phosphate, the name of the place of origin as approved by the Registrar must precede the name "raw phosphate".

**3. Requirements for Potassium fertilizers**

A fertilizer that contains potassium as main plant nutrient shall only be designated, registered and sold under a name in column 2 of Table 3 if:

- (a) it is chemically composed as indicated in column 3 of Table 3;
- (b) the potassium content thereof meets the requirements of column 4 of Table 3;
- (c) it meets the further relevant requirements specified in column 5 of Table 3;
- (d) the information in column 6 of Table 3 is provided in terms of Regulation 17(1)(c).

**4. Requirements for fertilizers that largely contain Calcium, Magnesium and Sulphur as plant nutrients**

A fertilizer that contains mainly calcium, magnesium or sulphur as plant nutrient shall only be designated, registered and sold under a name in column 2 of Table 4 if:

- (a) it is chemically composed as indicated in column 3 of Table 4;
- (b) the nutrient content thereof is specified against each name in column 4 of Table 4;
- (c) it meets the further relevant requirements specified in column 5 of Table 4;
- (d) the information in column 6 of Table 4 is provided in terms of Regulation 17(1)(c).

**5. Requirements for a chemically compounded fertilizer or a fertilizer mixture that contains nitrogen, phosphorus or potassium fertilizers**

(1) A fertilizer that is manufactured by mixing different components and that contains more than one of the plant nutrients nitrogen, phosphorus or potassium may only be approved, registered and sold under a name approved by the Registrar if:

- (a) it meets the requirements as specified in columns 2 to 7 of Table 5;
- (b) the information in columns 8, 9 and 10 in Table 5 is provided in terms of Regulation 17(1)(c);
- (c) where applicable, the following expression must appear together with the name of the fertilizer: provided that an abbreviation may be used in place of the wording:

WORDING	ABBREVIATION
Granule	GR
Macro Granule	SK / SG
Micro Granule	MK / MG
Powder	P
Crystal	C
Suspension	SP
Nitro - phosphate Suspension	NSP
Solution	OPL/SOL
Chlorine	Cl Laag / Cl Low
Watersoluble	W/O / W/S
Clear Solution	HO / CS

- (d) where applicable the fertilizer must meet the requirements of the Explosives Act of 2003 (Act No. 15 of 2003) and the regulations issued in terms thereof; and
- (e) the constituents thereof must not segregate visibly after manufacture.

(2) A mixed fertilizer shall only be registered and sold as a low chlorine fertilizer where, in the case of fertilizer mixture, the sum of the total plant nutrients is:

- (a) less than 200 g per kg and the chlorine may not be more than 20 g per kg;
- (b) between 200 g per kg and 290 g per kg and the chlorine content may not be more than 25 g per kg;
- (c) between 290 g per kg and 390 g per kg and the chlorine content may not be more than 30 g per kg; and
- (d) higher than 390 g per kg and the chlorine content may not be more than 35 g per kg.

**6. Requirements for liquid/fluid fertilizers**

A fertilizer manufactured in a liquid/fluid form that contains more than one of the nutrients nitrogen, phosphorus and potassium shall only be approved, registered and sold under a name approved by the Registrar if:

- (a) it meets the requirements of columns 2 to 7 of Table 6;
- (b) the information in columns 8, 9 and 10 is provided in terms of Regulation 17(1)(c);
- (c) where applicable, the expressions given in paragraph 5(1)(d) are given together with the name of the fertilizer; and
- (d) the nutrient content is given on a mass:mass basis. It may also be given on a mass:volume basis with specific gravity at 20°C.

**7. Requirements for micro-element fertilizer**

(1) Micro-elements as described in Table 7 shall only be registered and sold under a name in column 2 of Table 7:

- (a) the minimum plant nutrient concentration is as specified against each name in column 3 of Table 7;
- (b) it meets the requirements specified in column 3 of Table 7; and
- (c) the information in column 4 is provided in terms of Regulation 17(1)(c): provided that in the case of organic complexing agents the abbreviation given in column 1 of Table 15 may be used.

**8. Requirements for micro-element mixtures**

- (1) A fertilizer consisting of a mixture of micro-elements shall only be registered and sold if:
- (a) the minimum content of each element is that specified in columns 2, 3 and 4 of Table 8;
  - (b) the elements as specified in column 1 of Table 8 meet the requirements as specified in Table 8;
  - (c) the minimum total micro-element content:
    - (i) is 50 g per kg for powders/granules;
    - (ii) is 20 g per kg for liquid mixtures.
- (2) The total elements and water soluble content or water soluble content of each element must be provided in terms of Regulation 17(1)(c) as well as instructions for use as approved by the Registrar.

**9. Requirements for the addition of macro- and micro-elements**

- (1) Macro- and micro-elements may be added to chemically composed, mixed or liquid fertilizers provided that:
- (a) such macro- and micro-elements are registered in terms of the Regulations;
  - (b) such additions must be approved by the Registrar;
  - (c) the added macro- and micro-elements must be indicated in terms of Regulation 17(1)(c).
- (2) If micro-nutrients are added to inorganic fertilizers they must:
- (a) be registered in terms of the regulations;
  - (b) be supported by written proof that justifies such addition;
  - (c) not be added in lesser amounts than in Table 9;
  - (d) be printed on the label and invoice in terms of Regulation 17(1)(c);
  - (e) be accompanied by instructions for approval by the Registrar on the label.

***Custom mixes***

10. (a) The client must give the instruction or request for a custom mix to be manufactured. The instruction or request must conform to the following:
- (i) it must be in writing and must also show the name and address of the client;
  - (ii) the composition and mixing instructions, as well as the purpose of the custom mix must be described;
  - (iii) the amount to be mixed must be shown;
  - (iv) the request must be dated and signed;
  - (v) it must, for inspection purposes, be available on request.
- (b) The order must be entered into a register. A suitable code or reference number must be awarded to each request.

### Samples of fertilizers

11. When a sample of fertilizer is taken at a plant or elsewhere than a plant in terms of Section 15(1) of Act No. 36 of 1947, the person in charge of the undertaking or an officer as intended and authorised in terms of Section 2(2)(a) of Act No. 36 of 1947 shall take such sample of fertilizer using the methods described in part IV hereof: on the understanding that should the holder of the registration, his employee or agent sign the certificate relating to the sample taken, the method of sampling cannot become the subject of dispute.

### Analysis methods

12. (1) Analysis of the samples must be done by a laboratory acceptable to the Registrar.
- (2) Each laboratory must use methods of analysis acceptable to the Registrar.

### Investigational allowances

13. (1) A fertilizer mixture is not considered to have a deficiency of one or other of its registered nutrients as long as it is within the limits set out in Table 16: provided that the sum of single elements may not deviate more than 1,4% in absolute terms from the registered value for total nutrients.

(2) A chemically composed fertilizer is not considered to have a deficiency in one or other of its registered constituents as long as it is within the limits set out in Table 17.

(3) A fertilizer mixture or chemically compounded fertilizer to which micro-elements have been added is not considered to have a deficiency of the micro-elements as long as it is within the limits set out in Table 18.

### Harmful elements

14. The Registrar reserve the right, in cases where application for fertilizers are made, to request analysis of harmful elements. Cadmium (Cd) may not exceed a limit of 100 mg per kg.

## PART II

### ORGANIC FERTILIZERS, ORGANIC FERTILIZER MIXTURES AND OTHER FERTILIZERS

#### 1. Requirements for compost

A compost as described in Regulation 1 of the regulations relating to fertilizers must be registered and sold if:

- (a) it is sold in containers and must be fine enough for one hundred per cent thereof to pass through a 12 mm standard sieve;
- (b) it is a household and garden fertilizer as intended in Regulation 1 of the regulations relating to fertilizers, subregulation (a) must apply.
- (c) the ash content thereof does not exceed 400 g/kg on a dry matter basis;
- (d) the moisture content does not exceed 400 g/kg;
- (e) it does not contain any visibly undecomposed organic or other foreign material;
- (9) at least 80% of seeds that are planted under controlled conditions germinate normally and exhibit normal growth when planted in a growth medium as prescribed by the holder of the registration or manufacturer of such fertilizer.

#### 2. Requirements for municipal compost

A municipal compost that consists of urban waste must be registered and sold if:

- (1) it meets the requirements set out in paragraph 1(a) to (9) of Part II hereof.
- (2) no macro- or micro-element is added to a municipal compost without the written approval of the Registrar.

### 3. Requirements for sewage sludge

- (1) A compost that consists of sewage sludge must be registered and sold if it is a type D as described in Table 12 and if it further meets the requirements for total metal and inorganic content as given in the Table 12.
- (2) Sewage sludge must furthermore meet the requirements of paragraph 1(f) of Part II.
- (3) No macro- or micro-elements may be added to the sewage sludge without the written approval of the Registrar.

### 4. Requirements for a mixture of municipal compost and sewage sludge

- (1) A compost that consists of a mixture of municipal compost and sewage sludge must be registered and sold if:
  - (a) it meets the requirements set out in paragraph 1(f) of Part II hereof;
  - (b) it meets the requirements for total metal and inorganic content as set out in Table 12.
- (2) No macro- or micro-elements may be added to a mixture of municipal compost and sewage sludge without the written approval of the Registrar.

### 5. Requirements for composted poultry manure, kraal manure and other manure

An organic fertilizer that consists of composted poultry manure, kraal manure or any other excretions of animals, with the exception of bat manure and guano, must be registered and sold if it meets the requirements of paragraph 1(a), (b), (e) and (9) of Part II: on condition that:

- (a) the ash content does not exceed 400 g/kg; and
- (b) no macro- or micro-elements may be added without the written approval of the Registrar.

### 6. Requirements for bat manure

- (1) An organic fertilizer that consists of bat manure must be registered and sold if:
  - (a) the minimum total nitrogen content is 20 g/kg;
  - (b) the minimum phosphorus content soluble in 2% citric acid is 18 g/kg;
  - (c) the total content of nitrogen and phosphorus is a minimum of 60 g/kg;
  - (d) it is sterilised by any method approved in writing by the Registrar that eliminates organisms that could be harmful to man, animal or the environment.
- (2) No macro- or micro-elements may be without the written approval of the Registrar.

### 7. Requirements for guano, carcass, hoof, horn and bone meal

- (1) A product specified in column 1 of Table 13 must be registered and sold if:
  - (a) the total nitrogen content is as specified in column 2 of Table 13;
  - (b) the sum total of the nitrogen content, phosphorus content and potassium content is as given in column 3 of Table 13;
  - (c) it furthermore meets the requirements given in column 4 of Table 13.
- (2) The details specified in column 5 of Table 13 must be provided in terms of regulation 17(2)(a) in respect of the fertilizers.

(3) The fertilizers mentioned in paragraph 8 with the exception of guano must furthermore meet the requirement in paragraph 7(1)(e).

(4) No macro- or micro-elements may be added to a fertilizer without the written approval of the Registrar.

#### **8. Requirements for organic or enriched organic fertilizer mixtures**

(1) An enriched organic fertilizer mixture as described in Regulation 1, must be registered and sold under a name approved by the Registrar, if:

- (a) the nitrogen content is as specified in column 4 of Table 14;
- (b) the sum of the nitrogen, total phosphorus and potassium content is as specified in column 3 of Table 14.

(2) An organic fertilizer mixture as described in Regulation 1 must be approved, registered and sold if:

- (a) the sum of the nitrogen, total phosphorus and potassium content is as specified in column 3 of Table 14; and
- (b) it meets the requirements of Table 14.

#### **9. Requirements in respect of micro-elements in organic fertilizers and enriched organic fertilizer mixtures**

(1) Where micro-elements are added to an organic fertilizer mixture or enriched organic fertilizer mixture:

- (a) such micro-element must be registered in terms of the Act;
- (b) written proof must be supplied that justifies such addition;
- (c) it must not be in lesser amounts than stipulated in Table 9;
- (d) it must be indicated on the label or invoice in terms of Regulation 17(1)(c);
- (e) instruction for use approved by the Registrar must be printed on the label or invoice if it is a home or garden fertilizer.

(2) If the natural micro-element content of an organic fertilizer or an enriched organic fertilizer mixture is printed on the label as intended in Regulation 17(1)(c):

- (a) it must not be for amounts lower than specified in Table 9; and
- (b) the micro-element content must meet the solubility criteria specified in Table 7.

#### **10. Labelling and marking of containers of fertilizers**

(1) The label of a fertilizer must contain the information required in Regulation 17(1)(a) to (9).

(2) If the plant nutrients of a fertilizer as referred to in subparagraph (1) are given, they must be given as specified in Regulation 17(2).

(3) All fertilizers that are sold in bulk are subject to the provisions of regulation 18.

#### **11. Samples of fertilizers**

When a sample of a fertilizer is taken at a plant or elsewhere in terms of Section 15(1) of the Act the person in charge of the undertaking or an officer as intended and authorised in terms of Section 2(2)(a) of the Act shall take such sample of fertilizer using the methods described in part IV hereof: on the understanding that should the holder of the registration, his employee or agent sign the certificate relating to the sample taken, the method of sampling cannot become the subject of dispute.

**12. Investigational allowances**

(1) A fertilizer referred to in paragraphs 6 to 9 of Part II is not considered to have a deficiency of its registered nutrients as long as it does not deviate more than 10% from the relevant values: provided that the total plant nutrient content may not deviate more than 7% from the registered value.

(2) A fertilizer referred to in paragraphs 6 to 9 of Part II that contains micro-elements registered as such is not considered to have a deficiency as long as it is within the limits set out in Table 17.

**13. Harmful elements**

A fertilizer referred to in paragraphs 1 to 8 of Part II that contains harmful elements as specified in Table 12, must meet the requirements as specified in the table.

**PART III  
LIMING MATERIALS**

**7. Requirements for liming materials**

(1) A liming material may only be registered and sold as a fertilizer if:

- (a) It meets the requirements set out in Table 15.
- (b) The fineness thereof with the exception of shell lime is as follows:
  - (i) that at least 50% thereof passes through a **250** micron sieve (0,25 mm); and
  - (ii) that at least 100% thereof passes through a 1700 micron sieve (1,7 mm): provided that a finer grade may be registered.
- (c) The fineness of shell lime is as follows:
  - (i) that at least 60% thereof passes through a 500 micron sieve (0,5 mm); and
  - (ii) that at least 100% thereof passes through a 1700 micron sieve (1,7 mm): provided that a finer grade may be registered.
- (d) The maximum moisture content thereof on an oven dry basis at 105°C is 150 g/kg and the maximum moisture content of a liming material referred to in subparagraph (2) does not exceed 200 g/kg.

(2) A liming material may be registered as microfine if at least **95%** thereof passes through a 250 micron sieve and at least 80% thereof passes through a 106 micron sieve.

(3) The details in columns 1 to 6 of Table 15 must be given in terms of Regulation **17** in respect of the liming materials, as well as the following information:

- (a) CCE values, according to the strong acid and relative resin suspension methods;
- (b) Moisture content;
- (c) Sieve test.

**2. Investigational allowances**

A liming material is not considered to have a deficiency of any registered components as long as it does not deviate by more than 7% on a dry mass basis.

### 3. Samples of liming materials

When a sample of liming material is taken at a plant or elsewhere than a plant in terms of Section 15(1) of the Act the person in charge of the undertaking or an officer as intended and authorised in terms of Section 2(2)(a) of the Act shall take such sample of liming material knowing the methods described in part III hereof: Provided that should the holder of the registration, his employee or agent sign the certificate relating to the sample taken, the method of sampling cannot become the subject of dispute.

## PART IV SAMPLING OF FERTILIZERS

### THE MANNER OF TAKING, MARKING AND SEALING OF SAMPLES

#### A. General instructions for the taking of samples

1. Samples for the purpose of the Act must only be taken by the Registrar or his delegate and any authorised person in terms of the Act.
2. In the case of fertilizer in containers, only unopened containers must be selected for the purpose of sampling.
3. The sample must be taken and prepared as quickly as possible taking precautions to ensure that it remains representative of the sampled portion. Instruments, surfaces and containers used in sampling must be clean and dry.
4. No sample must be drawn from any part of the sampled portion, which appears to be damaged
5. When lumps are naturally present in a fertilizer, they must be broken up and mixed with the quantity from which a sample is to be drawn.
6. An inspector who intends to take a sample on premises must:
  - (a) satisfy himself that the conditions in which the fertilizer is stored are not such as might cause undue deterioration of the said fertilizer and that the fertilizer appears not to have been contaminated by any other material;
  - (b) where he has reasonable cause to believe that fertilizer in containers is only part of an original consignment, select the number of containers to be sampled as if not **less** than the whole consignment, were still present, except that sampling shall not take place if fewer than the minimum number of containers prescribed in Table 19 of paragraph (f) shall be available.
7. The sampling apparatus must be made of materials which cannot affect the characteristics of the fertilizer to be sampled.
8. In the case of a sampling spear its dimensions shall be appropriate to the characteristics of the sampled portion in all respects including dimensions of the container and particle size of the fertilizer.

A shuttered sampling spear, consisting of *two* metal tubes, one of which is a close sliding fit, inside the other, shall be used.

The inner diameter shall be at least 15 mm. Down one side of the outer tube, a series of dots is cut with a corresponding series of slots cut on one side of the inner tube. The width of the slots shall be at least 12 mm and the combined length of the slots must exceed 75% of the total sampling length of the spear.

When sampling, the spear is inserted diagonally through the whole width of the container, with the slots closed. The inner tube is then rotated to open the slots and the spear tapped and



worked about to encourage material to flow through the slots. The inner tube is then rotated to close the slots and the spear withdrawn. The sample is emptied into a suitable container.

9. Notwithstanding the provisions of these Regulations, a sampling spear must not be used if, prior to the taking of a sample, objection is raised thereto by the manufacturer on the grounds that the material is unsuitable.
10. Mechanical apparatus may be used for the sampling of moving fertilizers, if the apparatus is capable of taking samples right across the flow of the product.
11. Apparatus designed to divide the sample into approximately equal parts may be used for taking incremental samples and for the preparation of reduced and final samples.
12. A sample taken in accordance with the methods described in Paragraph C must be deemed to be representative of the sampled portion.

#### B. Quantitative requirements

##### 1. Sampled portion

Sample portion must be identified and specified on site in conjunction with manufacturer/supplier. Such sampled portion must be such that each of its constituent parts can be sampled in accordance with the requirements of this Regulation.

##### 2. Incremental sample

The incremental samples must be selected in the following manner:

- (a) in the case of solid fertilizers in containers -
  - (i) where the content of each of the containers in the sampled portion is more than 1 kg in mass the number of containers must be selected in accordance with Table 20 of this Regulation;
  - (ii) where the content of each of the containers in the sampled portion does not exceed 1 kg in mass, the number of containers must be selected in accordance with Table 19 of this Regulation, except that the number selected shall not be less than four;
- (b) in the case of loose solid fertilizers the number of incremental samples must be selected in accordance with Table 20 of this Regulation;
- (c) in the case of fluid fertilizer -
  - (i) where each container in the sampled portion contains not more than 100 litres the number of containers must be selected in accordance with Table 21 of this Regulation;
  - (ii) where each container in the sampled portion contains more than 100 litres an incremental sample must be drawn from each container.

##### 3. Composite sample

The appropriate mass or volume of the composite sample must not be less than the following:

- (a) solid fertilizers in container -
 

(i) containers of more than 1 kg	3 kg (6 kg for bulk blends)
(ii) containers not exceeding 1 kg	3 kg
- (b) loose solid fertilizers 3 kg (6 kg for bulk blends)
- (c) fluid fertilizers -

- |       |   |          |
|-------|---|----------|
| (i)   | containers exceeding 250 000 litres                           | 5 litres |
| (ii)  | containers exceeding 1 litre but not exceeding 250 000 litres | 4 litres |
| (iii) | containers not exceeding 1 litre                              | 2 litres |

4. Final sample (i.e. identical sub-samples)

The appropriate mass or volume of each final sample must not be less than the following:

- |     |                   |                                   |
|-----|-------------------|-----------------------------------|
| (a) | solid fertilizers | 1 000 g (2 000 g for bulk blends) |
| (b) | fluid fertilizers | 500 cm <sup>3</sup>               |

**C. Taking and preparation of samples**

1. Incremental samples

Incremental samples of approximately equal sizes must be taken at random throughout the whole sampled portion in the following manner:

- (a) in the case of solid fertilizers in containers
- (i) having selected the required number of containers for sampling in accordance with paragraph B 2(a), part of the content of each selected container must be taken as the incremental sample, except in the case of material to which subparagraph (iv) of this paragraph applies;
  - (ii) where necessary, each selected container must be emptied and worked up with a shovel separately and one shovelful taken as the incremental sample;
  - (iii) when the material is of a suitable nature the incremental sample may be taken from each selected container by means of a sampling spear or by divider;
  - (iv) when the material is so packed or of such a nature that a shovel or spear or divider cannot be used, or where the content of the container does not exceed 1 kg, the whole container shall be taken as the incremental sample;
  - (v) where the fertilizer is in a coarse or lumpy condition incremental samples must be taken in accordance with subparagraph (ii) or (iv) of this paragraph where appropriate. These must be crushed immediately and the whole sample passed through a standard sieve with 5,6 mm apertures;
  - (vi) where the fertilizer consists of bulky material, uneven in character and likely to get matted together, each selected package must be emptied separately and the matted portions be broken up and the whole of the contents of each package must be thoroughly mixed. The incremental samples must then be taken in accordance with subparagraph (ii) or (iv) of this paragraph where appropriate;
- (b) in the case of loose solid fertilizers -
- (i) sampling in the stationary state is not recommended;
  - (ii) when sampling is being carried out while the material comprising the sampled portion is in motion, the incremental samples shall be taken from the approximately equal parts as required in table 20 at equal time intervals;
  - (iii) where the fertilizer is in a coarse or lumpy condition, or consists of bulky material, uneven in character and likely to get matted together, the incremental samples must be taken in accordance with the relevant provisions of paragraph C1(a)(v) or (vi), where appropriate;

- (c) in the case of fluid fertilizers in containers each containing not more than 100 litres, the number of containers to be selected must be taken in accordance with Table 21 and -
- (i) where each container contains not more than 1 litre the entire contents of the selected containers must be transferred into a clean dry vessel of suitable material;
  - (ii) where each container contains more than 1 litre and not more than 100 litres the selected containers shall be well shaken or the contents agitated or otherwise treated to ensure uniformity. An approximately equal proportion of fluid shall then be taken immediately from each of the selected containers and transferred into a clean dry vessel of suitable material;
- (d) in the case of fluid fertilizers in containers each containing more than 100 litres -
- (i) when a consignment is being withdrawn from the container and there is a tap in the outlet pipe from which it is suitable to draw a sample, a quantity of not less than 4 litres must be drawn from the tap (after first withdrawing sufficient to remove any residues in the pipe) into a clean dry vessel of suitable material made up of portions not less than 0,5 litres and of approximately equal size taken at regular intervals;
  - (ii) if the liquid is homogeneous, about 1 litre must be drawn from a convenient outlet in the container (after first withdrawing sufficient to remove any residues in the outlet) into a clean dry vessel of suitable material;
  - (iii) if the liquid is not homogeneous, the contents must be well stirred or otherwise agitated and sampling must then proceed as in subparagraph(ii),
  - (iv) if it is not possible to make the liquid homogenous, in the manner described in subparagraph (iii), or if the inspector considers that the procedure in subparagraphs (d), (ii) and (iii) may not be appropriate, the contents must be sampled by using the modified Indiana sampler. The appropriate process must be repeated until a quantity of not less than 4 litres has been withdrawn; or
  - (v) where a sampled portion consists of two or more containers, incremental samples of approximately equal size must be taken from each, drawn in the manner described in subparagraphs (d), (ii), (iii) or (iv), where appropriate, and must be placed in a clean dry vessel of suitable material.
- (e) If increments are taken by sampling spear, not less than two cores per sampling point must be taken to give not less than 12 cores.

## 2. Composite sample

The incremental samples must be combined and thoroughly mixed to form a single composite sample. In the case of solid fertilizers the material in the composite sample must be carefully mixed to obtain a homogenised sample. Any lumps inconsistent with the nature of the material must be broken up (if need be by separating them out and returning them to be the composite sample).

## 3. Reduced sample

- (a) In the case of solid fertilizers the composite sample must, if necessary, be reduced to not less than given in paragraph B in the following manner:
- (i) the material must be heaped to form a "cone", which must then be flattened and quartered. Two diagonally opposite quarters must be rejected and the remainder must then be mixed and the quartering and rejection contained as necessary; or
  - (ii) the reduction method effected by the use of a mechanical device.

- (b) In the case of fluid fertilizers, the composite sample consists of approximately 2 litre may be taken as the reduced sample. In all other cases the composite sample must be thoroughly mixed and a quantity of at least 2 litres transferred immediately into a clean dry vessel of suitable material.

4. Final samples

The final samples must be obtained in the following manner:

- (a) in the case of solid fertilizers, the reduced sample or where necessary the composite sample must be thoroughly mixed and divided into three equal parts, and each part placed in an appropriate airtight container;
- (b) in the case of fluid fertilizers the reduced sample or where necessary the composite sample must be thoroughly mixed and immediately divided into approximately equal parts by pouring successive portions into appropriate airtight containers. The containers used must be such that the characteristics of the fertilizer at the time of sampling are preserved. The final sample must be kept at temperatures below 25 degrees Celsius.

**D. Marking, sealing and fastening up of the final sample**

1. Each container of a final sample must be secured and sealed by the person taking the sample so that the container cannot be opened without breaking the seal.
2. A label must be attached to the container and must be marked with the following particulars, which must not be hidden by the seal:
  - (a) name of the inspector as well as the department to which he belongs;
  - (b) identification mark given by the inspector to the sample;
  - (c) place of sampling;
  - (d) date of sampling;
  - (e) name of the material; and
  - (9) identification code, batch reference number or consignment identification of the material sampled, where readily available.

25

ANNEXURE B

TABLE 1

NITROGEN FERTILIZER<sup>†</sup>

1	2	3	4	5	6
NAME OF PRODUCT	METHOD OF MANUFACTURING & ESSENTIAL COMPONENTS	MINIMUM PLANT NUTRIENT CONTENT, FORM, OTHER REQUIREMENTS	FORMS AND SOLUBILITIES TO BE DECLARED IN COLUMN 6	DECLARATION OF SOLUBILITIES AND OTHER NORMS	
1	Ammonium sulphate	Chemically derived product that contains ammonium sulphate as essential component	200 g/kg N Nitrogen present as ammonium nitrogen	1. Total N 2. Ammonium - N 3. Nitrate - N 4. Amine - N 5. Cyanamide - N 6. Ureaformaldehyde 6a. Luke warm water soluble N 6b. Hot water soluble N 7. Total calcium 8. Total magnesium	Solubility (1); Solubility (2) optional; Sulphur optional, as long as at least 10 g/kg
2	Sodium nitrate	Chemically derived product that contains sodium nitrate as essential component	150 g/kg N Nitrogen present as nitrate nitrogen		Solubility (1); Solubility (3) optional
3	Calcium nitrate	Chemically derived product that contains calcium nitrate as essential component and possibly ammonium nitrate	119 g/kg N (solid) 170 g/kg Ca (solid) 80 g/kg N (liquid) 110 g/kg Ca (liquid)		Solubility (1) and (7); Solubility (3) optional
4	Calcium cyanamide <sup>‡</sup>	Chemically derived product that contains calcium cyanamide as essential component, calcium oxide and possibly small amounts of ammonium salts and urea	180 g/kg N (dry or liquid) Nitrogen present as total nitrogen at least 75% to be declared bound in the form of cyanamide		Solubility (1); Solubility (5) optional

1	2	3	4	5	6
NAME OF PRODUCT	METHOD OF MANUFACTURING & ESSENTIAL COMPONENTS	MINIMUM PLANT NUTRIENT CONTENT, FORM, OTHER REQUIREMENTS	FORMS AND SOLUBILITIES TO BE DECLARED IN COLUMN 6	DECLARATION OF SOLUBILITIES AND OTHER NORMS	
Urea	Chemically derived product that contains carbonyl diamide (carbamide) as essential component	450 g/kg N (solid) Total amine nitrogen (biuret included)	Same as for Ammonium Sulphate 1 - 8	Solubility (1)	
Low biurette urea	Chemically derived product that contains carbonyl diamide (carbamide) as essential component	450 g/kg N (solid) Total amine nitrogen (biuret included) Biuret content lower than 0.5%		Solubility (1)	
Limestone ammonium nitrate	Intimately mixed product of powdered lime and ammonium nitrate granules or prill.	150 g/kg N The minimum content of calcitic or dolomitic lime shall be 150 g/kg with a purity level of at least 900 g/kg. Must meet the requirements of the Explosives Act, Act 26 of 1956 and the regulations thereof.		Solubility (1); Solubility (2) and (3) optional; Sulphur content optional, provided at least 10 g/kg	
Ammonium sulphate nitrate	Mixture of ammonium nitrate and ammonium sulphate	250 g/kg N (solid) 180 g/kg N (liquid) 50 g/kg nitrate-N (solid) 40 g/kg nitrate-N (liquid) Must meet the requirements of the Explosives Act, Act 26 of 1956 and the regulations thereof.		Solubility (1); Solubility (2) and (3) optional; Sulphur content optional provided at least 10g/kg	
Aqua ammonia	MIXTURE OF WATER AND AMMONIA	150 g/kg N	Same as for Ammonium Sulphate 1 - 8	Solubility (1)	

27

NAME OF P	METHOD OF MANUFACTURING & ESSENTIAL COMPONENTS	MINIMUM PLANT NUTRIENT CONTENT, FORM, OTHER REQUIREMENTS	FORMS AND SOLUBILITIES TO BE DECLARED IN COLUMN 6	DECLARATION OF SOLUBILITIES AND OTHER NORMS
1	2	4	5	6
10	Urea formaldehyde	Reaction production of urea and formaldehyde	320 g/kg N 10 - 13% soluble in luke warm water (25°C) 15 - 16,5% insoluble in luke warm water (25°C) but soluble in hot water 8,5 - 13% insoluble in boiling water	Solubility (1) 6(a) and (b)
11	Ammonium Chloride	Chemically derived product that contains ammonium chloride as essential component	240 g/kg N	Solubility (1); Solubility (2) optional
12	Ammonium nitrate solution	Aqueous solution of ammonium nitrate	100 g/kg N Must meet the requirement of the Explosives Act, Act 26 of 1956 and the regulations thereof.	Solubility (1); Solubility (2) and (3) optional
13	Calcium ammonium nitrate	Mixed product of ammonium and calcium nitrate	100 g/kg N (solid) 80 g/kg N (liquid) Must meet the requirements of the Explosives Act, Act 26 of 1956 and the regulations thereof.	Solubility (1) and (7); Solubility (2) and (3) optional
14	Urea ammonium nitrate (UAN) solution	Aqueous solution that contains ammonium nitrate and urea as essential components	210 g/kg N Must meet the requirements of the Explosives Act, Act 26 of 1956 and the regulations thereof.	Solubility (1); Solubility (2), (3) and (4) optional

1	NAME OF PRODUCT	METHOD OF MANUFACTURING & ESSENTIAL COMPONENTS	MINIMUM PLANT NUTRIENT CONTENT, FORM, OTHER REQUIREMENTS	FORMS AND SOLUBILITIES TO BE DECLARED IN COLUMN 6	DECLARATION OF SOLUBILITIES AND OTHER NORMS
2					
15	Magnesium nitrate	Chemically derived product with magnesium nitrate as essential component	100 g/kg N (solid) 80 g/kg Mg (solid) 60 g/kg N (liquid) 50 g/kg Mg (liquid)	5	Solubility (1) and (8); Solubility (3) optional
16	Magnesium ammonium nitrate	Chemically derived product with ammonium nitrate and magnesium containing salts (dolomite, magnesium carbonate and/or magnesium sulphate as essential components)	190 g/kg N 60 g/kg NO <sub>3</sub> - N 60 g/kg NH <sub>4</sub> + N 30 g/kg Mg	1. Total N 2. Ammonium-N 3. Nitrate-N 4. Amine-N 5. Cyanamide-N 6. Urea form Aldehyde 6a. Luke warm water soluble-N	Solubility (1); Solubility (2), (3) and (8) optional
17	Anhyd.	Chemically derived product with NH <sub>3</sub> as essential component	800 g/kg N	6b. Hot water soluble-N 7. Total calcium 8.1 Total magnesium	Solubility (1)
18	Urea Formaldehyde Reaction Products: MU - Methyleneurea MDU - Methylenediurea DMTU - Dimethylenetriurea	Reaction of: Urea and Formaldehyde Urea and Monomethylolurea Methylenediurea and Monomethylolurea	38% N min, Al < 40 Of the N present: 10 - 13% is cold water soluble nitrogen (CWSN) - soluble in 25°C, the N is mineralised in about 1 - 4 weeks. 15 - 17% is cold water insoluble nitrogen (VWIN) or hot water soluble nitrogen (HWSN) at 25°C, the N is mineralised in about 1 - 16 weeks. 7 - 13% is hot water insoluble nitrogen (HWIN) at 98-100°C, the N is mineralised in about 1 - 30 weeks		



2<sup>o</sup>

	NAME OF PRODUCT	METHOD OF MANUFACTURING & ESSENTIAL COMPONENTS	MINIMUM PLANT NUTRIENT CONTENT, FORM, OTHER REQUIREMENTS	FORMS AND SOLUBILITIES TO BE DECLARED IN COLUMN 6	DECLARATION OF SOLUBILITIES AND OTHER NORMS
19	Urea formaldehyde condensates: CDU - Crotonylidenediurea IBDU - Isobutylidenediurea	Urea and Crotonaldehyde Urea and Isobutyraldehyde	32% N, AI = 99.8 30-31% N, AI = 99		
20	Soluble N sources that gradually decompose: GUAN - Guanylurea GUP - Guanylurea phosphate GUS - Guanylurea sulphate	Acidulation of Calcium Cyanamide	27,8% N 37% N		
21	Sparingly soluble minerals: Magnesium ammonium phosphate		57 - 90 g/kg N 126 - 196 g/kg P	Solubility approx. 0.014 g/100 ml at 25°C 1 - 2% water soluble nitrogen	

Products 1 - 7, 9 - 12, 15 - 17, 18 - 21 are chemically derived products.  
Products 8, 13 and 14 are mixtures.

30

TABLE 2

## PHOSPHORUS FERTILIZERS

1	2	3	4	5	6
NAME OF PRODUCT	METHOD OF MANUFACTURING & ESSENTIAL COMPONENTS	MINIMUM PLANT NUTRIENT CONTENT, FORM, OTHER REQUIREMENTS	FORMS AND SOLUBILITIES TO BE DECLARED IN COLUMN 6	DECLARATION OF SOLUBILITIES AND OTHER NORMS	
1	Basic Slag	Product derived from iron foundry through treatment of phosphorus melt. Contains calcium silica phosphates as essential component	40 g/kg P, soluble in 2% citric acid. Particle size: At least 75% capable of passing through a sieve with a mesh of 150 micron; at least 98% capable of passing through a sieve with a mesh of 630 micron.	1. Water soluble P 2. P soluble in mineral acid (HNO <sub>3</sub> + HCl) 3. P soluble in 2% citric acid 4. Total calcium 5. Total Sulphur	Solubility (3); Solubility (2) optional
2	Super Phosphate	Product derived from the reaction of milled mineral phosphate with sulphuric acid and/or phosphoric acid, and contains mono calcium phosphate as an essential component together with calcium sulphate	80 g/kg P, soluble in 2% citric acid, of which at least 80% must be water soluble.		Solubility (3); Solubility (1), (4) and (5) Optional provided the calcium and sulphur contents are at least 10 g/kg
3	Partially dissolved milled sedimentary rock phosphate	Product derived from the partial dissolution of milled sedimentary rock with sulphuric acid, phosphoric acid or nitric acid and contains Mono and tri calcium phosphates and calcium sulphate as essential components	80 g/kg P, soluble in mineral acids, of which at least 25% must be water soluble. Particle size of phosphate rock: - At least 85% capable of passing through a sieve with a mesh of 150 micron; - At least 98% capable of passing through a sieve with a mesh of 630 micron		Solubility (1) and (2) Solubility (3), (4) and (5) Optional provided the calcium and sulphur contents are at least 10 g/kg

NAME OF PRODUCT	METHOD OF MANUFACTURING & ESSENTIAL COMPONENTS	MINIMUM PLANT NUTRIENT CONTENT, FORM, OTHER REQUIREMENTS	FORMS AND SOLUBILITIES TO BE DECLARED IN COLUMN 6	DECLARATION OF SOLUBILITIES AND ATTACHED WORDING
1			5	
4	2 Dicalcium phosphate	3 Product derived from the precipitation of soluble phosphoric acid with mineral phosphates or bones and contains dicalcium phosphate hydrate as essential component.	4 160 g/kg P, soluble in 2% citric acid. Particle size: At least 80% capable of passing through a sieve with a mesh of 150 micron.	
5	Super and sedimentary milled phosphate rock	3 Shall consist of a mixture of Superphosphate powder and sedimentary milled phosphate rock	4 110 g/kg P, soluble in mineral acids, of which at least 25% must be water soluble. Sedimentary milled phosphate rock: Particle size: - At least 80% capable of passing through a sieve with a mesh of 150 micron. - At least 99% capable of passing through a sieve with a mesh of 300 micron.	
6	Phosphoric acid solution	3 Chemically derived product that contains phosphoric acid as essential component	4 100 g/kg P soluble in mineral acids	Solubility (2)
7	Sedimentary milled phosphate rock powder	3 Product derived from milling sedimentary phosphate rock and contains carbonate appetite as essential component	4 80 g/kg P soluble in mineral acids, of which at least 20% must be soluble in 2% citric acid and at least 70% must be soluble in four successive extractions with 2% citric acid. Particle size: - At least 80% capable of passing through a sieve with a mesh of 150 micron.	Solubility (2); Solubility (3) and (4) optional provided the calcium content is at least 10 g/kg. Declaration of P-component A phosphate rock of this fineness shall be designated with the word "powder" or the letter "P".

32

NAME OF PRODUCT	METHOD OF MANUFACTURING & ESSENTIAL COMPONENTS	MINIMUM PLANT NUTRIENT CONTENT, FORM, OTHER REQUIREMENTS	FORMS AND SOLUBILITIES TO BE DECLARED IN COLUMN 6	DECLARATION OF SOLUBILITIES AND OTHER NORMS
1	3	4	5	6
2		<ul style="list-style-type: none"> <li>- At least 98% capable of passing through a sieve with a mesh of 630 micron.</li> </ul>		
8	Phosphate rock-sedimentary phosphate rock (micro granules)	Product derived through milling sedimentary phosphate rock and contains carbonate as essential component.	80 g/kg P soluble in mineral acids of which at least 20% must be soluble in 2% citric acid and at least 70% must be soluble in four successive extractions with 2% citric acid. Particle size: <ul style="list-style-type: none"> <li>- At least 20% capable of passing through a sieve with a mesh of 150 micron.</li> <li>- At least 98% capable of passing through a sieve with a mesh of 630 micron.</li> </ul>	Solubility (2) Solubility (3) and (4) optional, provided the calcium content is at least 10 g/kg  Declaration of P-component. (ex. Sedimentary milled phosphate rock). A phosphate rock of this fineness shall be designated with the word "micro granules" or the letters "µG" (µK)
9	Fused phosphate	Melted fusion of natural phosphate and magnesium hydro-silicate rock	At least 100 g/kg P soluble in strong acid of which at least 97.4% is soluble in 2% citric acid 60 g/kg Mg soluble in 2% citric acid; 100 g/kg Si soluble in 2% citric acid	Regulation 5(2) <ol style="list-style-type: none"> <li>1. P soluble in 3% citric acid.</li> <li>2. Mg soluble in 2% citric acid.</li> <li>3. Ca soluble in 2% citric acid.</li> <li>4. Si soluble in 2% citric acid.</li> </ol>
10	Diammonium phosphate	Ammonium phosphates produced by reacting ammonia with phosphoric acid	160 g/kg N 200 g/kg P	
11	Mono ammonium phosphate	Ammonium phosphates produced by reacting ammonia with phosphoric acid	120 g/kg N 260 g/kg P	

33

1	NAME OF PRODUCT	METHOD OF MANUFACTURING & ESSENTIAL COMPONENTS	MINIMUM PLANT NUTRIENT CONTENT, FORM, OTHER REQUIREMENTS	FORMS AND SOLUBILITIES TO BE DECLARED IN COLUMN 6	DECLARATION OF SOLUBILITIES AND OTHER NORMS
12	2 Mono potassium phosphate	3	4 220 g/kg P 286 g/kg K	5	6

34

TABLE 3  
POTASSIUM FERTILIZERS

1	2	3	4	5	DECLARATION OF SOLUBILITIES AND OTHER NORMS
NAME OF PRODUCT	METHOD OF MANUFACTURING & ESSENTIAL COMPONENTS	MINIMUM PLANT NUTRIENT CONTENT, FORM, OTHER REQUIREMENTS	FORMS AND SOLUBILITIES TO BE DECLARED IN COLUMN 6		
1 Potassium chloride	Product derived from raw potassium salts, and contains potassium chloride as essential component.	420 g/kg K (solid) 100 g/kg K (liquid)	1. Water soluble potassium 2. Water soluble magnesium 3. Total sulphur 4. Hot water soluble magnesium 5. Total calcium 6. Total nitrogen 7. Water soluble nitrogen 8. Hot water soluble potassium	Solubility (1)	
2 Potassium chloride that contains magnesium salts	Product derived from raw potassium salts with added magnesium salts and contains potassium chloride and magnesium salts as essential components.	150 g/kg K (solid) 30 g/kg Mg (liquid) Magnesium is present as water soluble salts, present as magnesium.			Solubility (1) and (2); Solubility (3) optional, provided the sulphur contents is at least 10 g/kg
3 Potassium Sulphate	Production chemically derived from potassium salts and contains potassium sulphate as essential component.	390 g/kg K (solid) 30 g/kg K (liquid) Maximum chlorine content: 30 g/kg Cl			Solubility (1); Solubility (3) optional, provided it contains at least 10 g/kg sulphur. Declaration of "low chlorine" must meet requirements of regulation 5(2).

35

1	2	3	4	5	6
NAME OF PRODUCT	METHOD OF MANUFACTURING & ESSENTIAL COMPONENTS	MINIMUM PLANT NUTRIENT CONTENT, FORM, OTHER REQUIREMENTS	FORMS AND SOLUBILITIES TO BE DECLARED IN COLUMN 6	DECLARATION OF SOLUBILITIES AND OTHER NORMS	
4	Potassium Magnesium Sulphate	Product chemically derived from potassium salts, possibly with addition of magnesium salts and contains potassium sulphate and magnesium sulphate as essential components.	180 g/kg K (solid) 40 g/kg Mg (liquid) Magnesium in the form of water soluble salts, present as magnesium. Maximum chloride content: 30 g/kg Cl	chloride 1 - 8	Solubility (1) and (2); Solubility (3) optional, provided it contains at least 10 g/kg sulphur. Declaration of 'low chlorine' must meet requirements of regulation 5(2).
5	Potassium nitrate	Product chemically derived from potassium salts and contains potassium nitrate as essential components.	300 g/kg K 100 g/kg N		
6	Sulphomag	Natural mineral that contains sulphur, magnesium and potassium	170 g/kg K		Solubility (4) and (8) Solubility (3) optional, provided it contains at least 10 g/kg sulphur
7	Potassium Magnesium Sulphate	A double salt of magnesium sulphate and potassium sulphate with a small amount of sodium chloride.	180 g/kg K 48 g/kg Mg 220 g/kg S 30 g/kg Cl max.		
*	Cold water soluble potassium unless specified otherwise.				
*	Products 1 - 6 listed are chemically derived products.				

36

TABLE 4

## FERTILIZERS THAT CONTAIN MAINLY CALCIUM, MAGNESIUM OR SULPHUR

1	2	3	4	5	6
NAME OF PRODUCT	METHOD OF MANUFACTURING & ESSENTIAL COMPONENTS	MINIMUM PLANT NUTRIENT CONTENT, FORM, OTHER REQUIREMENTS	FORMS AND SOLUBILITIES TO BE DECLARED IN COLUMN 6	DECLARATION OF SOLUBILITIES AND OTHER NORMS	
1	Calcium Sulphate	Product of natural or industrial origin and contains calcium sulphate at different degrees of hydration	180 g/kg Ca 120 g/kg S Milling Fineness: 1. At least 90% to pass through a 2000 micron sieve. 2. At least 50% to pass through a 250 micron sieve.	1. Total sulphur 2. Total calcium 3. Water soluble magnesium	Solubility (1) and (2) optional
2	Elemental Sulphur	Reasonably fine natural or industrial product, in powder or granule form with or without filler material	900 g/kg S		Solubility (1)
3	Magnesium sulphate	Product that contains magnesium sulphate heptahydrate as essential component	50 g/kg Mg 110 g/kg S		Solubility (3); Solubility (1) optional
4	Calcium Chloride		183 g/kg Ca		Solubility (2)
5	Calcium EDTA	water soluble product obtained by combining calcium chemically with a chelating agent	100 g/kg Ca		Solubility (2)
6	magnesium sulphate Anhydrous		200 g/kg Mg		solubility (1) optional (3)
7	Magnesium Sulphate Monohydrate - Kieserite	Product of mineral origin containing monohydrated Magnesium Sulphate as the main component	175 g/kg Mg 230 g/kg S		solubility (1) optional (3)



37

1	2	3	4	5	6
	NAME OF PRODUCT	METHOD OF MANUFACTURING & ESSENTIAL COMPONENTS	MINIMUM PLANT NUTRIENT CONTENT, FORM, OTHER REQUIREMENTS	FORMS AND SOLUBILITIES TO BE DECLARED IN COLUMN 6	DECLARATION OF SOLUBILITIES AND OTHER NORMS
8	Magnesium Sulphate Heptahydrate	Product containing heptahydrated Magnesium Sulphate as the main component	99 g/kg Mg 130 g/kg S		Solubility (1) and (3)
9	Magnesium EDTA	Water soluble product obtained by combining magnesium chemically with a chelating agent	60 g/kg Mg		Solubility (1)

TABLE 5

FERTILIZER MIXTURES CONTAINING TWO OR MORE MAIN PLANT NUTRIENTS

1	2	3	4	FORMS, SOLUBILITIES AND ELEMENTAL PLANT NUTRIENT CONTENT TO BE DECLARED AS SPECIFIED IN COLUMNS 8, 9 AND 10			DECLARATION OF FORMS, SOLUBILITIES AND OTHER NORMS		
				5	6	7	8	9	10
	METHOD OF MANUFACTURE AND ESSENTIAL COMPONENTS	MINIMUM PLANT NUTRIENT CONTENT	MINIMUM PLANT NUTRIENT PER ELEMENT	N	P	K	N	P	K
NPK-, NP-, NK- or PK-fertilizers	Product chemically derived or through mixing without the addition of organic plant nutrients of animal or plant origin	TOTAL 100 g/kg N + P + K 80 g/kg N + P 80 g/kg N + K 80 g/kg P + K	10 g/kg	Total N Nitrate-N Ammonium-N 4. Amine-N 5. Cyanamide-N 6. Urea formaldehyde	Water soluble soluble in mineral acids soluble in 2% citric acid	Total K	Total N If any of the N forms (2) to (6) are present at, at least 1% may be declared.	1) An NPK-, or PK-fertilizer free of basic slag, calcium magnesium silico phosphate, partially solubilised phosphate rock or sedimentary milled phosphate rock must be declared in terms of solubility (3); solubility (1) and (2) optional. 2) An NPK-, NP- or PK-fertilizer that: (a) contains basic slag or calcium magnesium silico phosphate, must be declared in terms of solubilities (1), (2) and (3); (b) sedimentary milled phosphate rock or partially solubilised sedimentary phosphate rock, must be declared in terms of solubility (2) and (3). The present of these phosphate sources must	1) Total K 2) Declaration of "low chlorine" must meet the requirements of guideline 5(g) 3) Chlorine content may be declared

39

	METHOD OF MANUFACTURE AND ESSENTIAL COMPONENTS	MINIMUM PLANT NUTRIENT CONTENT	MINIMUM PLANT NUTRIENT PER ELEMENT	FORMS, SOLUBILITIES AND ELEMENTAL PLANT NUTRIENT CONTENT TO BE DECLARED AS SPECIFIED IN COLUMNS 8, 9 AND 10			DECLARATION OF FORMS, SOLUBILITIES AND OTHER NORMS		
				TOTAL	N	P	K	N	P
1	2	3	4	5	6	7	8	9	10
								be declared and, in the case of sedimentary milled phosphate rock, its fineness and contribution to total P must be declared.	
							Calcium, magnesium and sulphur may be declared, provided the content thereof is at least 10,5 and 10 g/kg respectively.		
	Product chemically derived or through mixing, with addition of organic plant nutrients of animal or plant origin. Organic component is less than 500 g/kg (m/m)	100 g/kg N + P + K					1) Total N	2) P soluble in mineral acids. 3) P soluble in 2% citric acid. if raw phosphate is a component of the mixture of application for registration must indicate the fineness and origin of the source.	
							The declaration of the type/origin of the organic component, as well as the content thereof in the mixture, is compulsory.		

40  
TABLE 6  
FERTILIZER MIXTURES CONTAINING 2 OR MORE MAIN PLANT NUTRIENTS

1	2	3	4	5				6				7	8				9	10
				MINIMUM PLANT NUTRIENT CONTENT				MINIMUM PLANT NUTRIENT PER ELEMENT					FORMS, SOLUBILITIES AND ELEMENTAL NUTRIENT CONTENT TO BE DECLARED AS SPECIFIED IN COLUMNS 8, 9 AND 10					
NPK-, NP-, NK- or PK-fertilizer solutions	Product in liquid form in which the plant nutrients are in solution, without the addition of organic plant nutrients of animal or plant origin.	TOTAL 100 g/kg N + P + K 80 g/kg N + P 80 g/kg N + K 80 g/kg P + K	10 g/kg per element	1. Total N 2. Nitrate-N 3. Ammonium-N 4. Urea-N	Water soluble P	Water soluble K	1) Total N 2) If any of the N forms (2) to (4) are present at least 1% they may be declared.	Water soluble P	1) Water soluble K 2) Declaration of "low chlorine" must meet the requirements of regulation 5(2). 3) The chlorine content may be declared.									
NPK-, NK- or PK-fertilizer suspension	Production in liquid form in which the plant nutrients are derived from substances both in suspension in the water, and in solutions without the addition of organic plant nutrients of animal or plant origin.	100 g/kg N + P + K 80 g/kg N + P 80 g/kg N + K 80 g/kg P + K	10 g/kg per element	1. Total N 2. Nitrate-N 3. Ammonium-N 4. Urea-N	1. Water soluble P 2. P soluble in 2% citric acid	Total K	1) Total N 2) If any of the N forms (2) to (4) are present at least 1% by mass, may be declared.	P content must be declared in terms of solubility (2); solubility (1) optional	1) Total K 2) Declaration of "low chlorine" must meet the requirements of regulation 5(2). (3) The chlorine content may be declared.									
							Declaration of typical density at 20°C. Calcium, Magnesium and Sulphur may be declared, provided the content thereof is at least 10,5 and 10 g/kg respectively.		Calcium, magnesium and sulphur may be declared provided the content thereof is at least 10,5 and 10 mg/kg respectively.									

TABLE 7

REQUIREMENTS FOR MICRO-NUTRIENT COMPOUNDS THAT ONLY CONTAIN ONE ELEMENT

1	2	3	4
Product	Minimum Micro-nutrient concentration - g/kg Other requirements	Declarations of Solubilities and other properties	
<b>7.1</b>	<b>Compounds containing BORON (B)</b>		
1.1	Boric Acid	140 g/kg water soluble B	Water soluble B
1.2	Sodium borate: Fertilizer Grade Spray Grade	100 g/kg water soluble B 150 g/kg water soluble B	Water soluble B
1.3	Calcium Borate	70 g/kg total B	Water soluble B, total B
1.4	Boron ethanol Amine	80 g/kg water soluble B	Water soluble B
1.5	Boron Fertilizer in solution or suspension	20 g/kg water soluble B	Water soluble B, Total B
1.6	Boron Frit		Total B, Specify "slowly available"
<b>7.2</b>	<b>Compounds containing COPPER (Cu)</b>		
2.1	Copper Sulphate Pentahydrate	250 g/kg water soluble Cu	Water soluble Cu
2.2	Copper Oxide	700 g/kg total Cu	Total Cu
2.3	Copper Hydroxide	450 g/kg total Cu	Total Cu
2.4	Copper Oxychloride	500 g/kg total Cu	Total Cu, Particle size at least 98% passing through a 0,063 mm sieve
2.5	Copper Oxychloride suspension	170 g/kg total Cu	Total Cu
2.6	Copper EDTA chelate	140 g/kg Cu - solid 117 g/kg Cu - liquid Min 80% chelated	Water soluble Cu
2.7	Copper Fertilizer in dry form manufactured from 2.1, 2.2, 2.3, 2.4 or 2.5	50 g/kg total Cu	Declare components: Total Cu; Soluble Cu optional if water soluble fraction greater than 25% of total
2.8	Copper Fertilizer in solution manufactured from 2.1, 2.2, 2.3, 2.4 or 2.5	30 g/kg water soluble Cu	Water soluble Cu; chelated Cu

42

Product	Minimum Micro-nutrient concentration - g/kg Other requirements	properties
1	2	4
2.9	Copper and Amino Acid Chelates 40 g/kg water soluble Cu A scientifically accepted method to prove chelation should be provided in order to state that it is an amino acid chelate.	Water soluble Cu
2.10	Copper Frit 150 g/kg total Cu	Total Cu, Specify "slowly available"
<b>7.3</b>	<b>Compounds containing IRON (Fe)</b>	
3.1	Iron sulphate heptahydrate 200 g/kg Fe	Water soluble Fe
3.2	Iron Sulphate monohydrate 328 g/kg Fe	Water soluble Fe
3.3	Iron EDTA chelate 60 g/kg Fe - solid 40 g/kg Fe - liquid Min 80% chelated	Water soluble Fe
4	Iron HEDTA 90 g/kg Fe - solid 78 g/kg Fe - liquid Min 80% chelated	Water soluble Fe
4	Iron and IPA chelates 110 g/kg Fe - solid 78 g/kg Fe - liquid Min 80% chelated	Water soluble Fe
3.6	Iron EDDHA chelate 60 g/kg Fe - solid Min 80% chelated HG - at least 60% of the chelate in "ortho-ortho" form. LG - at least 15% of the chelate in the "ortho-ortho" form.	Water soluble Fe
3.7	Iron Amino Acid Chelate 50 g/kg water soluble Fe A scientifically accepted method to prove chelation should be provided in order to state that it is an amino acid chelate.	Water soluble Fe
3.8	Iron Fertilizer in dry form manufactured from 3.1, 3.2, 3.3, 3.4, 3.5 or 3.6 50 g/kg total Fe	Declare components: Total Fe, chelated Fe optional
3.9	Iron Fertilizer in solution manufactured from 3.1, 3.2, 3.3, 3.4, 3.5 or 3.6 30 g/kg water soluble Fe	Water soluble Fe, % chelated Fe optional
3.10	Iron Frit 300 g/kg total Fe	Total Fe Specify "slowly available"
<b>7.4</b>	<b>Compounds containing MANGANESE (Mn)</b>	
4.1	Manganese Sulphate monohydrate 170 g/kg water soluble Mn	Water soluble Mn
4.2	Manganese Oxide 400 g/kg total Mn	Total Mn

Product	Minimum Micro-nutrient concentrations - g/kg Other requirements	Physical and chemical properties
4.3	Manganese EDTA chelate	Water soluble Mn
4.4	Manganese Dithio Amino Acid Chelate	Water soluble Mn A scientifically accepted method to prove chelation should be provided in order to state that it is an amino acid chelate.
4.5	Manganese Fertilizer in dry form manufactured from 4.1, 4.2 or 4.3	170 g/kg total Mn Declare components: Total Mn Soluble Mn optional if water soluble fraction greater than 25% of total
4.6	Manganese Fertilizer in solution manufactured from 4.1, 4.2 or 4.3	30 g/kg water soluble Mn Water soluble Mn, % chelated Mn optional
4.7	Manganese Frit	200 g/kg total Mn Total Mn Specify "slowly available"
<b>7.5</b>	<b>Compounds containing MOLYBDENUM (Mo)</b>	
5.1	Sodium Molybdate	Water soluble Mo
5.2	Ammonium Molybdate	Water soluble Mo
5.3	Molybdenum Fertilizer in dry form manufactured from 5.1 or 5.2	Water soluble Mo
5.4	Molybdenum Fertilizer in solution manufactured from 5.1 or 5.2	Water soluble Mo
<b>7.6</b>	<b>Compounds containing ZINC (Zn)</b>	
6.1	Zinc Sulphate heptahydrate	Water soluble Zn
6.2	Zinc Sulphate monohydrate	Water soluble Zn
6.3	Zinc Nitrate Hexahydrate	Water soluble Zn
6.4	Zinc Nitrate Hexahydrate solution	Water soluble Zn
6.5	Zinc Oxide	Total Zn
6.6	Zinc EDTA chelate	Water soluble Zn 150 g/kg Zn - solid 130 g/kg Zn - liquid Min 80% chelated

1	Product	Minimum micro-nutrient concentration - g/kg Other requirements	4
6.7	Zinc Amino Acid Chelate	2 Water soluble Zn Any accepted method to prove chelation should be used in order to state that it is an amino acid chelate.	4 Water soluble Zn
6.8	Zinc Fertilizer in dry form manufactured from 6.1, 6.2, 6.3, 6.4, 6.5 or 6.6	3 300 g/kg total Zn	Declare components: Total Zn Soluble Zn optional if water soluble fraction greater than 25% of total
6.9	Zinc Fertilizer in solution manufactured from 6.1, 6.2, 6.3, 6.4, 6.5 or 6.6	30 g/kg water soluble Zn	Water soluble Zn, % chelated Zn optional
6.10	Zinc Frit	180 g/kg total Zn	Total Zn, specify "slowly available"

Notes relating to table:

1. A chelating agent may be indicated using its abbreviation as set out in Table 10
2. Where the micro-nutrient is present in chelate form, the pH range in which it is stable must be given.
3. Trade marks may be added to the names in all cases.
4. The combined cation and/or anion, whichever is applicable, must be indicated with the macro-nutrients.
5. Inert filler material may be used in product formulation.
6. The label must contain guidelines/instructions for application in respect to crop, usage and rate.



45

TABLE 8

**MICRO-ELEMENT MIXTURES:  
MINIMUM CONTENT PER ELEMENT IN g/kg**

ELEMENT	FORM IN WHICH ELEMENT PRESENT		
	MINERAL	CHELATE	MINERAL & CHELATE
1	2	3	4
Boron (B)	2	-	2
Copper (Cu)	0,5	0,1	0,5
Iron (Fe)	20	3	20
Manganese (Mn)	5	1	5
Molybdenum (Mo)	0,2	-	0,2
Zinc (Zn)	5	1	5

**Notes in respect of Table:**

1. Values in table refer to solid and liquid products.
2. Only products complying with the requirements of table 7 may be used in micro-element mixtures.
3. Minimum total micro-element content for:  
Powders/granular mixtures - 50 g/kg  
Liquid mixtures - 20 g/kg
4. The label must indicate the total and/or water soluble content for each micro-element.
5. Guidelines for application in respect of crop, dosage and application method must appear on the label.

46

TABLE 9

FERTILIZERS THAT CONTAIN BOTH MICRO- AS WELL AS MACRO-ELEMENTS: MINIMUM CONTENT PER MICRO-ELEMENT IN g/kg

ELEMENT	FOR APPLICATION METHOD			
	SOIL APPLICATION	WATER CULTURE	FOLIAR SPRAY	
1	2	3	4	
Boron (B)	0,1	0,1	0,1	
Copper (Cu)	0,1	0,02	0,02	
Iron (Fe)	5	0,2	0,2	
Manganese (Mn)	1	0,1	0,1	
Molybdenum (Mo)	0,01	0,005	0,005	
Zinc (Zn)	1	0,1	0,1	

Notes in respect of Table:

1. Only micro-element products complying with the requirements of Table 7 may be used.
2. Each label must indicate the total and water soluble amounts.
3. Guidelines for application in respect of crop, dosage and application method must appear on the label

07

TABLE 10  
APPROVED ORGANIC CHELATING AGENTS

Chelating Agent 1	Recognised abbreviation 2
Sodium, Potassium or Ammonium salts of:	
Ethylenediaminetetraacetic acid	EDTA
Diethylenetriaminepentaacetic acid	DTPA
[o,o] ethylenediamine-di (o-hydroxyphenyl acetic) acid	EDDHA
[o,p] ethylenediamine-di (p-hydroxyphenyl acetic) acid	EDDHA
2-hydroxyethylethylenediaminetriacetic acid	HEEDTA
[o,o] ethylenediamine-di (o-hydroxy-l-o-methylphenylacetic) acid	EDDHMA
[o,p] ethylenediamine-di (o-hydroxy-p-methylphenylacetic) acid	EDDHMA
[p,o] ethylenediamine-di (p-hydroxy-o-methylphenylacetic) acid	EDDHMA
[2,4] Ethylenediamine di (2-hydroxy-4-carboxyphenylacetic) acid	EDDCHA
[2,5] Ethylenediamine di (2-hydroxy-5-carboxyphenylacetic) acid	EDDCHA
[5,2] Ethylenediamine di (5-hydroxy-2-carboxyphenylacetic) acid	EDDCHA

Notes in respect to Table:

1. The list may be augmented with the necessary biological confirmation of efficacy.
2. International chemical abbreviations may be used to indicate the name of the product.

48

TABLE 11

## REQUIREMENTS FOR URBAN WASTE

PARAMETER 1	PERMISSIBLE LEVELS 2
Moisture	400 g/kg maximum
Inorganic materials	700 g/kg maximum
Plastic	20 g/kg maximum
Glass (5.6 mm)	20 g/kg maximum
Organic matter	150 g/kg minimum
Fatty acids	2 000 mg/kg maximum
Growth index	0.6 mg/kg minimum
Ascaris ova	0 (Absent)
Coliphage	0 (Absent)
Salmonellae	0 (Absent)



TABLE 13  
REQUIREMENTS FOR GUANO AND OTHER PRODUCTS DERIVED FROM ANIMAL ORIGIN

1	2	3	4	5
Minimum nitrogen content	Minimum of sum of nitrogen, total phosphorus and total potassium content	Minimum nitrogen content	Minimum requirements	Particulars of plant nutrients to be indicated
g/kg	g/kg			
70	100	Guano	Shall consist mainly of the excreta of sea birds	(i)
30	100	Phosphate guano		(ii)
60		Carcass meal	Shall be of animal origin and be sterilized according to an approved method under Regulations regarding Sterilizing Plants.	(iii)
60	100	Hoof and horn meal		
40	100	Bonemeal		

51

TABLE 14

ENRICHED ORGANIC AND ORGANIC FERTILISER

NAME OF PRODUCT	METHOD OF MANUFACTURE	MINIMUM NUTRIENT CONTENT; OTHER REQUIREMENTS	MINIMUM NITROGEN CONTENT	DECLARATION OF FORMS, SOLUBILITIES AND OTHER NORMS			
				PER ELEMENT	N	P	K
		TOTAL	4	5	6	7	
1 Organic fertilizer or organic fertilizer mixture	2 A product formed by mixing the different organic fertilizers, without addition of inorganic fertilizers	3 40 g/kg	4 None specific	5 None specific	6 Citric acid solution P Optional  Total P	7 None Specific	
Enriched organic fertilizer	A product that is formed by mixing organic and inorganic fertilizers; with an organic component of at least 500 g/kg (C x 1,72)	100 g/kg	10 g/kg	Total N	Citric acid soluble P (optional)  Total P  If raw phosphate is a component of the mixture, the application for registration must specify the fineness and origin of the raw phosphate and citric soluble P must be given.	Total K	

Mixture name depends on total N, P, and K. The type/origin of the organic component must be declared with an optional declaration of the organic content.





#3  
TABLE 16  
INVESTIGATIONAL ALLOWANCE OF MAIN AND SECONDARY ELEMENTS IN INORGANIC FERTILIZER MIXTURE

REGISTERED PLANT NUTRIENT CONTENT, E %	DEVIATION (D) FROM E PERMITTED	RELATIVE DEVIATION (RD) FROM E PERMITTED
1	2	3
1	0,25	25,0
2	0,30	14,9
3	0,34	11,5
4	0,39	9,8
5	0,44	8,8
6	0,48	8,1
7	0,53	7,6
8	0,58	7,2
9	0,63	6,9
10	0,67	6,7
12	0,77	6,4
14	0,86	6,1
16	0,95	6,0
18	1,05	5,8
20	1,14	5,7
25	1,38	5,5
30	1,61	5,4
35	1,84	5,3
40	2,08	5,2

Values not given in the table can be derived from the following formula:

$$D = 0,046875E + 0,203125$$

$$RD = \frac{20,3125 + 4,6875E}{E} = \frac{D}{E} \cdot 100$$

N, P, K, Ca, Mg and/en S  
Including ammonified superphosphate

TABLE 17

INVESTIGATIONAL ALLOWANCES OF MAIN AND SECONDARY ELEMENTS IN CHEMICALLY COMPOUNDED FERTILIZERS

REGISTERED P-NUTRIENT CONTENT, %	DEVIATION (D) FROM E PERMITTED	RELATIVE DEVIATION (RD) FROM E PERMITTED %
1	2	3
5	0.47	9.4
6	0.49	8.1
7	0.50	7.2
8	0.52	6.5
9	0.54	6.0
10	0.55	5.6
12	0.59	4.9
14	0.62	4.5
16	0.66	4.1
18	0.69	3.9
20	0.73	3.6
25	0.82	3.3
30	0.90	3.0
35	0.99	2.8
40	1.08	2.7
45	1.16	2.6
50	1.25	2.5

Values not given in the table can be derived from the following formula:

$$D = 0,01738,E + 0,3810$$

$$RD = \frac{38,10}{E} + 1,738 = \frac{D}{E} \cdot 100$$

N P K, Ca, Mg and S

55

TABLE 18

INVESTIGATIONAL ALLOWANCES OF ADDED MICRO-ELEMENTS IN FERTILIZER MIXTURES

REGISTERED MICRO-ELEMENT CONTENT (E)	DEVIATION (D) FROM E PERMITTED	RELATIVE DEVIATION (RD) FROM E PERMITTED
%	2	%
1		3
0,10	0,040	40,0
0,25	0,075	30,0
0,50	0,133	26,7
0,75	0,192	25,6
1,00	0,250	25,0

Values not given in the table can be derived from the following formula:

$$D = 0,233333 E + 0,016667$$

$$RD = \frac{1,9667}{E} + 23,3333 = \frac{D}{E} \cdot 100$$

56

TABLE 19  
FERTILIZERS IN CONTAINERS

NUMBER OF CONTAINERS IN SAMPLED PORTION 1	NUMBER OF CONTAINERS TO BE SELECTED FOR SAMPLING 2
8 to 49	Not less than 7
50 to 64	Not less than 8
65 to 81	Not less than 9
82 to 100	Not less than 10
101 to 121	Not less than 11
122 to 144	Not less than 12
145 to 169	Not less than 13
170 to 196	Not less than 14
197 to 225	Not less than 15
226 to 256	Not less than 16
257 to 289	Not less than 17
290 to 324	Not less than 18
325 to 361	Not less than 19
362 and above	Not less than 20

TABLE 20

LOOSE FERTILIZERS

M D	NUMBER OF INCREMENTAL SAMPLES REQUIRED
1	2
Up to and including 2.5	Not less than 7
Greater than 2.5 and up to and including 3	Not less than 8
Greater than 3 and up to and including 4	Not less than 9
Greater than 4 and up to and including 5	Not less than 10
Greater than 5 and up to and including 6	Not less than 11
Greater than 6 and up to and including 7	Not less than 12
Greater than 7 and up to and including 8	Not less than 13
Greater than 8 and up to and including 9	Not less than 14
Greater than 9 and up to and including 11	Not less than 15
Greater than 11 and up to and including 12	Not less than 16
Greater than 12 and up to and including 14	Not less than 17
Greater than 14 and up to and including 16	Not less than 18
Greater than 16 and up to and including 18	Not less than 19
Greater than 18 and up to and including 20	Not less than 20
Greater than 20 and up to and including 22	Not less than 21
Greater than 22 and up to and including 24	Not less than 22
Greater than 24 and up to and including 26	Not less than 23
Greater than 26 and up to and including 28	Not less than 24
Greater than 28 and up to and including 31	Not less than 25
Greater than 31 and up to and including 33	Not less than 26
Greater than 33 and up to and including 36	Not less than 27
Greater than 36 and up to and including 40	Not less than 28

58

VILLAGE SAMPLED FOR WATER IN TONS	NUMBER OF INCREMENTAL SAMPLES REQUIRED
Greater than 39 and up to and including 42	Not less than 30
Greater than 42 and up to and including 45	Not less than 31
Greater than 45 and up to and including 48	Not less than 32
Greater than 48 and up to and including 51	Not less than 33
Greater than 51 and up to and including 54	Not less than 34
Greater than 54 and up to and including 57	Not less than 35
Greater than 57 and up to and including 61	Not less than 36
Greater than 61 and up to and including 64	Not less than 37
Greater than 64 and up to and including 68	Not less than 38
Greater than 68 and up to and including 72	Not less than 39
Greater than 72 and up to and including 76	Not less than 40
Greater than 76	

59

TABLE 21

LIQUID FERTILIZERS

NUMBER OF CONTAINERS IN SAMPLED PORTION	NUMBER OF CONTAINERS TO BE SELECTED FOR SAMPLING
1	2
1 to 3	All containers
4 to 20	Not less than 4
21 to 60	Not less than 6
61 to 100	Not less than 8
101 to 400	Not less than 10
More than 400	Not less than 20

**TABLE 22**  
**PORTS OF ENTRY**

<b>Land boarder posts</b>	<b>International Airports</b>	<b>International harbours</b>	<b>Inland</b>
Beitbridge	Cape Town	Cape Town	Johannesburg
Caledonspoort	Durban	Durban	Kimberly
Ficksburg	Gateway (Pietersburg)	East London	Pretoria
Golela	Johannesburg	Mossel Bay	Mmabatho
Grobblersburg	Lanseria	Port Elizabeth	Pietermaritzburg
Kapfontein	Port Elizabeth	Richards Bay	Upington
Jeppesreef	Richards bay	Saldanha Bay	Bloemfontein
Lebombo	Upington		Stellenbosch
Mahamba	Bloemfontein		Germiston
Mananga	Mafikeng		
Maseru bridge			
Nakop			
Nerston			
Oshoek			
Qachas' Nek			
Ramatlabana			
Skilpadshek			
Van Rooyenshek			
Violsdrif			



61

**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

<b>APPLICATION FOR REGISTRATION OF A FERTILIZER</b>
---

**TO BE COMPLETED IN DUPLICATE****1. Applicant**

1.1 Name of applicant: \_\_\_\_\_

1.2 Registration number of company: \_\_\_\_\_

**2. Address of applicant**

2.1 Postal address: \_\_\_\_\_

2.2 Postal code: \_\_\_\_\_

2.3 Physical address: \_\_\_\_\_

\_\_\_\_\_

2.4 Telephone number: \_\_\_\_\_

Fax number: \_\_\_\_\_

\_\_\_\_\_

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

**3. Manufacture and formulation**

3.1 Name of manufacturer: \_\_\_\_\_

3.2 Postal address: \_\_\_\_\_

3.3 Postal code: \_\_\_\_\_

3.4 Physical address: \_\_\_\_\_

\_\_\_\_\_

3.5 Telephone number: \_\_\_\_\_

Fax number: \_\_\_\_\_

E-mail: \_\_\_\_\_

(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:  
\_\_\_\_\_

3.8 Qualifications: \_\_\_\_\_

3.9 Professional registration number: \_\_\_\_\_

#### 4. Particulars of product

4.1 Trade mark (acknowledged or registered in terms of the Trade Marks Act (Act 62 of 1963) (if any)): \_\_\_\_\_

4.2 Trade Name: \_\_\_\_\_

4.3 How will the product be sold:

Bulk
------

Containers :
--------------

4.4 Type and size of container

Polyprop Bag :
----------------

Plastic Bag :
---------------

Drum
------

Glass Bottle :
----------------

Plastic Bottle :
------------------

Other (specify) :
-------------------

4.5 Registration number if previously registered: \_\_\_\_\_



6. Directions for use: **All** packaging, less than 20 kg 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.

\_\_\_\_\_  
**INITIALS AND SURNAME**

**SIGNATURE:** \_\_\_\_\_

\_\_\_\_\_  
**CAPACITY**

**DATE:** \_\_\_\_\_

(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.)

**FOR OFFICE USE ONLY**

The Registrar (Act 36 of 1947)

The registration is recommended .....  \*Not recommended .....

Technical Adviser ..... Date .....

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.

**TECHNICAL** § 1