No. R. 421 **2 April 2004**

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

PROPOSED REGULATIONS REGARDING FERTILIZERS

The Minister of Agriculture has, under section 23 of the Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No 36 of 1947), hereby-

(a) make known that I intend to make the regulation in the Schedule; and

(b) invite interested persons to submit any objections to or representations concerning the proposed regulation in writing to the Registrar: Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies, Private Bag X343, Pretoria, 0001; e-mail address: secsmfsqa@nda.agric.za, within four weeks from the date of publication hereof.

SCHEDULE

1. Definitions

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

"agricultural liming material" means substances of which the calcium and magnesium compounds have the ability to reduce soil acidity and in the opinion of the registrar, contain no harmful elements. The calcium carbonate equivalent (CCE-strong acid) of such substances must be at least 70 %;

"amorphous lime" means refers to 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;

"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 neutralizing 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;

“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), on the understanding 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.

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

“compost” means a stabilized, 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 current packaging in which a measured amount of a fertilizer is offered for sale.

"custom mix" means a mixture compiled on the written advice of a qualified person for a spesific 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 105ºC to constant mass, on the understanding that in the case of substances that react with carbon dioxide (CO_2) the atmosphere in the oven be replaced with an inert gas such as nitrogen (N_2).

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

“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 (on a mass basis factor Cx1,72)

“fertilizer material” means an organic or inorganic material contains one or more plant nutrient in 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 guidelines.

“final samples” means a replicate representative parts of the reduced sample or, where no intermediate reduction is required, the composite sample maybe regarded as identical sub-samples of the sampled portion;

“guano” means the excrement of seabirds, as it occurs in nature and to which no other substances have been added, without the written authority of the Registrar.

"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.

"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 also 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 similar meaning.

"low chlorine" means a fertilizer mixture with the maximum chlorine content as prescribed in the guidelines issued by the Registrar.

"macro element" means any of the elements nitrogen (N), phosphorus (P), potassium (K), calcium (Ca), magnesium (Mg) and sulfur (S).

"macro-pellet" refers to particle sizes that are noticeably larger than those for "pellets". Specifications for particle sizes are described for different products in Tables 2 to 5 (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).

"mini-pellet" means particle sizes that are noticeably smaller than those for "pellets".

"mixed agricultural liming material" means-

(a) calcitic - a mixture of two or more of the following liming materials:

- **calcitic agricultural lime**
- **dolomitic agricultural lime**
- **slaked and unslaked calcitic and dolomitic agricultural lime**

- **calcium-magnesium-silicate: Provided that the magnesium content should not exceed 43 g/kg;**

(b) dolomitic - a mixture of two or more of the following products:

- **calcitic agricultural lime**
- **dolomitic agricultural lime**
- **slaked and unslaked calcitic and dolomitic agricultural lime**
- **calcium - magnesium - silicate**
- **magnesium agricultural lime: Provided that the magnesium content should be at least 43 g/kg;**

"mixer" means a manufacturer or person who mixes registered fertilizers for sale or someone who mixes such fertilizers on prescription for someone.

"municipal compost" means-

(1) urban waste - The disinfected and stabilized organic fertilizer manufactured by the controlled decomposition of sorted and milled urban waste including fermentable industrial and commercial waste.

(2) sewage sludge - the disinfected and stabilized organic fertilizer manufactured from the treatment of raw sewage sludge.

(3) municipal waste and sewage sludge - a mixture of the above two products.

"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 mixture" means a mixture of registered organic fertilizers (organic = C x1,72)

"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 100 g/kg prescribed plant nutrients.

"pellet" means refers to the size of particles in fertilizers, of which no more than 10 % remain on a 4 mm sieve and no more than 10 % remain on a 4 mm sieve and no more than 10 % pass through a 1 mm sieve: on the understanding that 90 % fall within the interval of 1 mm to 4 mm and on the understanding 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. (Granule has a corresponding meaning).

"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 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". The term usually refers to a high degree of fineness of milled

sedimentary phosphate rocks, but can also apply to other products and product types.

“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: with the understanding 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 container 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;.

“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 and silicates” means a mixture of the silicates of calcium and magnesium as 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 (SiO_2); and includes calcium-magnesium silicate;.

“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.

“solution” means a homogeneous liquid containing the plant nutrients in true solution.

“standard sieve” means a wire mesh sieve with openings as indicated in these regulations and meeting the following specifications:

(1) nominal diameter 200 mm;
(2) effective diameter 185 mm;
(3) depth 50 mm;
(4) the type of join shall be smooth where each chaimwire is woven alternately over and under succeeding wires;
(5) the wires shall be of stainless steel with the following diameter for liming materials:

(a) 0,100 mm for a 106 micron sieve,

(b) 0,160 mm for a 250 micron sieve,
(c) 0,316 mm for a 500 micron sieve,
(d) 0,56 mm for a 1000 micron sieve,
(e) 0,80 mm for a 1700 micron sieve,
(f) 1,40 mm for a 4000 micron sieve.

"sterilization installation" means an installation used for the sterilization 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.

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

"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.

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

PART 1-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 applicable 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.

(e) be accompanied by a copy of the experimental results detailing the biological efficiency of the particular fertilizer: on the understanding that the Registrar may grant exemption for submission of a sample or a submission as intended in sub-regulation (d) and (e).

(f) be accompanied, when required by the Registrar, 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 is applicable to 31 December of a calendar year.

(2) Should a registration be granted during a particular calendar year within three months of the date of lapsing intended in sub-regulation (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 him 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 that the date of lapsing intended in sub-regulation 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 applicable application fee

(d) be accompanied by two copies of facsimiles of all labels currently at the time of the application used in connection with the sale of the fertilizer: **with the proviso that the Registrar, may depending on the circumstances exempt this.**

(3) Apart from the determinations of sub-regulation 2(b) an application in terms of sub-regulation 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: **on the understanding that the Registrar may grant exemption from submission of the application form as intended in sub-regulation 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 at all from the comparable details that have already been registered or approved with respect to that fertilizer or label: on the understanding that only the original of each application can be so declared or confirmed.**

Conditions for certain registrations and renewal of certain 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 deviation 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 certain registrations and approved labels

6(1) Should anyone in favour of whom -
(a) 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): on the understanding that the Registrar may waive the application fee should the particular change or alteration:

(a) be in the public interest; or
(b) be made at his insistence.

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; or

(2) at least 30 days prior to the date on which the registration is transferred to someone else: on the understanding that the registration envisaged in regulation 2 for the particular fertilizer in favour of such other person should be submitted concurrently.

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: 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 to whom the applicable decision has been supplied the specific appeal must be accompanied by a statement indicating the interest of the particular party in that decision or steps.

(1) The applicable amount 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: on the understanding 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 Building, Beatrix Street, Pretoria.

ADVERTISEMENTS

Publications or distribution of false or misleading advertisements.

10 (1) No person may publish or distribute a false or misleading advertisement for a fertilizer.

(2) Specific scientific claims must be submitted for approval to the Registrar

(3) Advertising shall not require approval but must conform to the approved registration and the standards of the Advertising Standards Authority of South Africa.

PART IV-IMPORTS

Harbours and place through which import may occur.

11. (1) A fertilizer may only be imported through the places referred to in Table 1.

(2) Notwithstanding the provisions of sub-regulation 1 the Registrar may, on written request of the person to whom the Registration Certificate has been issued in terms of Article 3, read in conjunction with article 16(1) of the Act, for a fertilizer authorize the import of a particular consignment thereof through a place of entry other than those mentioned in Table 1.

PLACE OF ENTRY

Beitbridge
Nakop
Vioolsdrift
Ramatlabana
Golela
Komatipoort
Johannesburg International/Main Post office
Cape Town International/Harbour/Main Post office
Durban International/Harbour/Main Post office
Pretoria Main Post Office
East London Harbour/Main Post Office/Airport
Port Elizabeth Harbour/Main Post Office/Airport
City Deep:Container Depot
Richards Bay

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 determination;
(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 fertiilzer manufactured from such raw materials by the person in whose favour the fertilizer is registered or by a competent body in the Republic recognised as such by the Registrar.

(4) The person in charge of a plant and responsible for the manufacture, control, packaging, marking or labelling of a fertilizer/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 so that, in the opinion of the Registrar, he is capable of carrying out the duties assigned to such a person.

(5) Raw materials either stored loose or in containers and to be used in the maufacture 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.

14. REQUIREMENTS FOR ESTABLISHMENTS

(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 normally manufactured, controlled, packed, marked, stored or labeled there complies with the particulars registered in respect thereof, and that such fertilizer possesses 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, labeling or warehousing of a fertilizer shall be sufficient and appropriate for the proper execution of the particular function.

15. KEEPING OF RECORDS

(1) The person managing the undertaking engaged in at a plant must keep complete records in respect of each fertilizer that is manufactured, controlled, packaged or labeled in respect of:

(a) The results of quality control carried out in terms of regulation 2(3) of the raw materials used in the manufacture of the fertilizer and of such fertilizer;

(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 in connection with sub-regulation (1) kept at a plant, as well as the formulation of every fertilizer manufactured there, must be kept at such plant or other place as approved by the Registrar on request, for at least six months after the date on which the particular fertilizer was manufactured: on the understanding that should a complaint be received in terms of sub-regulation 1(b) records relating to the particular fertilizer may not be destroyed within two years of the date of such a complaint.

16. PACKAGES IN WHICH FERTILIZERS MAY BE SOLD

(1) A fertilizer may only be sold, apart from the provisions of the **Trade and Metrology Act, 1973 (Act No 77 of 1973), 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 sub-regulation (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 with such sale.

17. LABELLING AND MARKING OF CONTAINERS OF FERTILIZERS

(1) The following details relating to a fertilizer must be given 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 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 sub-regulation (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 and Metrology Act, 1973 (Act No. 77 of 1973); and

(f) The name and address of the person in whose favour such fertilizer is registered.

(2) The details referred to in sub-regulation 1(c) are those that, in terms of Part 1, paragraphs 1,2,3,4,5,6,7,8 and 9 of the Requirements for the Registration of Fertilizers in the RSA, depending on the situation, 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 gram or kilogram to the nearest whole amount;

(b) should more than one plant-nutrient require to be indicated the details given in sub-regulation (2) and Paragraph (a) should be given with respect to each such plant nutrient in the order required or approved;

(c) besides the details in sub-regulation 1(a) and (b) the details in the Requirements for the Registration of a Fertilizer 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 sub-regulations 2(a), (b) and (c);

(e) in the case of a low chlorine mixture indicating the potassium carrier is optional; and

(3) all the details mentioned in sub-regulations (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 in 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 on the understanding 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 sub-regulation (4) or those that may be used optionally must be as approved by the Registrar.

18. SUPPLY OF INVOICES

(1) Should a fertilizer with the exception of a prescription mixture be sold loose:

(a) the invoice must contain the details determined in Regulation 17;
(b) a sample of the fertilizer (excepting agricultural lime and organic fertilizers) shall be taken on the understanding that such sample:

(i) is taken by a method described in the Requirements for the Registration of Fertilizers;

(ii) it is divided into two containers of at least 250 g or 250 cm^3 that are sealed and labelled in such a manner that the fertilizer can easily be identified as that described in the invoice.

(iii) one sample will accompany the invoice and the other be retained by the seller for at least 6 months.

(2) An invoice must be handed over to the person or his representative for whom the fertilizer is destined for use during delivery: on the understanding that receipt of such handing over of the invoice shall be in writing.

PART VI-GENERAL

19. Anyone that 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 or to both the fine and imprisonment.

PAYMENT OF FEES

20. (1) The postal charge on and delivery costs of an application or article submitted in terms of these regulations as well as on or of anything else in connection therewith, 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: Agriculture: on the understanding 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 Article 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, Agricultural Building, Beatrix Street, Pretoria.

REPEAL OF REGULATIONS

22. The undermentioned regulations are hereby repealed:-

(1) Government Notice R799 of 20 May 1977

(2) Government Notice R473 of 14 March 1980

(3) Government Notice R472 of 14 March 1980

(4) Government Notice R1651 of 26 August 1977

(5) Government Notice R1449 of 1 July 1983 in as much as it refers to fertilizers

REQUIREMENTS FOR THE REGISTRATION OF FERTILIZERS IN THE RSA

PART I

INORGANIC FERTILIZERS AND GENERAL REQUIREMENTS OF 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 said Table;

(b) the nitrogen content thereof meets the requirement of column 4 of the said Table;
(c) it meets the relevant requirements in columns 5 and 6 of the said Table;
(d) the information in column 6 of Table 1 must be given in respect of the fertilizer in terms of Regulation 22(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 said Table;
(b) the phosphorus content thereof meets the requirement specified in column 4; of the said Table;
(c) it meets the further relevant requirements specified in column 5;
(d) the information in column 6 of Table 2 must be given in respect of each fertilizer 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;
(d) the information in column 6 of Table 3 must be given in respect of each fertilizer 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 plant nutritional content thereof is specified against each name in column 4 of Table 4;
(c) it meets the further relevant requirements specified in column 5;
(d) the information in column 6 of Table 4 must be given in respect of each fertilizer in terms of Regulation 17(1)(c).

5. Requirements for a chemically compounded fertilizer or a fertilizer mixture that contains nitrogen, phoshorus 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

and potassium may only be approved, registered and sold under a name approved by the Registrar, if:

(a) it contains no organic fertilizers;
(b) it meets the requirements as specified in columns 2 to 7 of Table 5;
(c) the information in columns 8, 9 and 10 in Table 5 must be given in respect of each fertilizer in terms of Regulation 17(1)(c).
(d) where applicable the following expression may appear together with the name of the fertilizer: on the understanding that one abbreviation may be used in place of the wording.

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

(e) if applicable that fertilizer must meet the requirements of the Act on Explosive Substances (Act No 26 of 1956) and the regulations issued in terms thereof; and
(f) the constituents thereof must not segregate visibly after manufacture thereof.

(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:

(a) is less than 200 g per kg, the chlorine content may not be more than 20 g per kg;
(b) is between 200 g per kg and 290 g per kg, the chlorine content may not be more than 25 g per kg;
(c) is between 290 g per kg and 390 g per kg, the chlorine content may no be more than 30 g per kg, and
(d) is higher than 390 g per kg, the chlorine content may not be more than 35 g per kg.

6. Requirements for soluble Fertilizers

A fertilizer manufactured in a soluble form that contains more than one of the plant 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 herewith;
(b) the information in columns 8, 9 and 10 Table 6 are given next to the name of the fertilizer in terms of Regulation 22(1)(c) in respect of the fertilizer; and
(c) where applicable the expressions given in paragraph 5(d) are given together with the name of the fertilizer.
(d) the nutrient content is given on a mass:mass basis. It may also be given on a mass:volume basis (with SG) at 20°C

7. Requirements for micro-element fertilizer

(1) Micro-elements as described in Table 12 herewith shall only be registered and sold under a name in column 2 of the said Table if:

(a) the minimum plant nutrient concentration is as specified against each name in column 3;
(b) it meets the additional requirements specified in column 3 of the said Table, and
(c) the information in column 4 next to the name of each fertilizer must be given for that fertilizer in accordance with Regulation 17(1)(c): on the understanding 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 13 herewith;
(b) the elements as specified in column 1 of the Table mentioned meet the requirements as specified in Tables 12.1 to 12.6.
(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 and water soluble content or water soluble content of each element must be given for each fertilizer 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 only be added to chemically composed, mixed or liquid fertilizers: on the understanding that:
(a) such macro- and micro-elements must be 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 it 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 expounded in Table 14;
(d) be given on the label and invoice in terms of Regulation 17(1)(c);
(e) be accompanied by instructions for use agreed upon between the applicant and the Registrar on the label or invoice if it is a fertilizer.

Custom mixes

10. (a) The client must give the instruction or request for a custom mix to be manufactured. This 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.

(c) The label, or the invoice should the fertilizer not be sold in containers, must reflect the following:

(i) The name and address of the person that requested the custom mix;
(ii) The words "not for public sale",
(iii) The name of the mix or for which purpose the mix is intended;
(iv) The code or reference number;
(v) The mass of the product in the container or bag;
(vi) The name and address of the manufacturer.

Samples of fertilizers

11. When a sample of fertilzer is taken at a plant or elsewhere than a plant in terms of Article 15(1) of the Act the person in charge of the undertaking or an officer as intended and authorized in terms of Article 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, agent- or any other witness sign the certificate relating to the sample taken, the method of sampling cannot become the subject of dispute.

Analysis methods

12. In the case of a dispute only methods of analysis as determined by the Agri-Laboratory Association of Southern Africa (ALASA) may be used: on the understanding that the Registrar may recognize any other method of analysis as may be modified from time to time.

Investigational allowances

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

Harmful elements

14. The Registrar reserved 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

Requirements for compost

(1) A compost as described in Regulation 1 of the regulations relating to fertilizers shall only 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 sold in bulk directly to the agricultural sector, sub-paragraph 1(a) is not applicable;
(c) it is a household and garden fertilizer as intended in Regulation 1 of the regulations relating to fertilizers, sub-regulation (a) shall apply whether it is sold in containers or in bulk;
(d) the ash content thereof does not exceed 200 g/kg on a dry matter basis;
(e) the moisture content does not exceed 400 g/kg;
(f) it does not contain any visibly undecomposed organic or other foreign material;
(g) at least 80% of certain 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.

Requirements for urban waste

2. A municipal compost that consists of urban waste as described in Regulation 1 of the regulations relating to fertilizers may only be registered and sold if:

(1) it meets the requirements set out in paragraph 1(a) to (g) of Part II hereof.
(2) No macro- or micro- element is added to an urban waste without the written approval of the Registrar.

Requirements for sewage sludge

3. (1) A municipal compost that consists of sewage sludge as described in Regulation 1 of the regulations relating to fertilizers may only be registered and sold if it is a type D as described in Table 9 herewith, and if it further meets the requirements for total metal and inorganic content as given in the Table mentioned.

(2) Sewage sludge must furthermore meet the requirements of paragrph 1 (1)(G) of Part II hereof.

(3) No macro- or micro elements may be added to the sewage sludge without the written approval of the registrar.

Requirements for a mixture of urban waste and sewage sludge

4. (1) A municipal compost that consists of a mixture of urban waste and sewage sludge as described in Regulation 1 of the regulation relating to fertilizers may only be registered and sold if:

(a) it meets the requirements set out in paragraph 1(g) of Part II hereof.
(b) it meets the requirements for total metal and inorganic content as set out in Table 9 hereof.

(2) No macro-or micro-elements may be added to a mixture of urban waste and sewage sludge without the written approval of the Registrar.

Requirements for municipal waste

5. (1) A municipal waste as implied and described in Regulation 1 of the regulations relating to fertilizers may only be registered and sold if: -

(a) it meets the requirements set out in table 8 hereof;

(b) it furthermore meets the requirements set out in paragraph (1)(g) of Part II hereof.

(2) No macro- or micro-elements may be added to a municipal waste without the written approval of the registrar.

Requirements for composted poultry manure, kraal manure and other manure

6. An organic fertilizer that consists of processed composted poultry manure, kraal manure or any other excretions of animals, with the exception of bat manure and guano, may only be registered and sold if it meets the requirements of paragraph 1(a),(b),(c),(e),(f) and (g) of Part II hereof: on condition that

(a) the ash content does not exceed 350 g/kg, and
(b) no macro-or micro-elements may be added without the written approval of the Registrar.

Requirements for bat manure

7. (1) an organic fertilizer that consists of bat manure may only be registered and sold if:

(a) The minimum total nitrogen content thereof is 20 g/kg;

(b) The minimum phosphorus content soluble in 2 % citric acid thereof is 18 g/kg;

(c) The sum of the total of nitrogen and phosphorus is a minimum of 60 g/kg;

(d) it is sterilized 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-element may be added to a fertilizer intended in sub-paragraph (1) without the written approval of the Registrar.

Requirements for guano, carcases, hoof, horn and bone meal

8. (1) A fertilizer of animal origin of which the name appears in column 1 of Table 7 hereof may only be registered and sold if:

(a) the total nitrogen content thereof is as specified in column 2 of the respective table against each such name;

(b) the sum of the nitrogen content, total phosphorus content and total potassium content is as given in column 3 of the respective table against each such name;

(c) it furthermore meets the requirements given in column 4 of the respective table against each such name.

(2) The details specified in column 5 of table 7 must be given in terms of regulation 6(1) in respect of the fertilizers.

(3) The fertilizers mentioned in paragraph (1) 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 as intended in sub-paragraph (1) without the written approval of the Registrar.

Requirements for enriched organic fertilizer mixtures

9. (1) An enriched organic fertilizer mixture as described in Regulation 1, may only be sold under a name approved by the Registrar, if:

(a) The nitrogen content is as specified in column 4 of Table 10.
(b) The sum of the nitrogen content, total phosphorus and potassium content is as specified in column 3 of the relevant table (3).

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

(a) the sum on the nitrogen content, total phosphorus content and potassium content is as specified in column 3 of the relevant table; and
(b) It meets the requirements of the relevant table.

Requirements in respect of micro-elements in organic fertilizers and enriched organic fertilizer mixtures

10. (1) Where micro-elements are added to an organic fertilizer mixture or enriched organic fertilizers 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 may not be in lesser amounts than stipulated in Table 14;

(d) it is indicated on the label or invoice in terms of Regulation 17(1)(c).

(e) Instruction for use approved by the Registrar must be given on the label or invoice if it is: -

(i) a home or garden fertilizer.

(2) If the natural micro-element content of an organic fertilizer or an enriched organic fertilizer mixture is given on the label as intended in Regulation 17(10(c): -

it must not be for amounts lower than given in Table 14; and

(a) the micro-element content must be water soluble.

11. LABELLING AND MARKING OF CONTAINERS OF FERTILIZERS

(1) The label of a fertilizer as referred to in paragraphs 1,2,3,4 and 5 hereof, that is sold in containers, must contain the information required in Regulation 17(1)(a) to (f).

(2) If the plant nutrients of a fertilizer as intended in sub-paragraph (1) are given, they must be given as intended in Regulation 17(2).

(3) Regulation 18 applies to all fertilizers that are sold in bulk.

12. SAMPLES OF FERTILIZERS

When a sample of a fertilizer is taken at a plant or elsewhere than a plant in terms of Article 15(1) of the Act the person in charge of the undertaking or an officer as intended and authorized in terms of Article 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, agent or any other witness sign the certificate relating to the sample taken, the method of sampling cannot become the subject of dispute.

13. INVESTIGATIONAL ALLOWANCES

(1) A fertilizer as intended in paragraphs 7 to 10 is not considered to have a deficiency of one or another of its registered plant nutrients as long as it does not deviate more than 10 % from the relevant values: on the understanding that the total plant nutrient content may not deviate more than 7 % from the registered value

(2) A fertilizer as intended in paragraphs 7,8,9 and 10 that contains micro-elements registered as such is not considered to have a deficiency in terms of micro-elements as long as it is within the limits set out in Table 17.

14. HARMFUL ELEMENTS

A fertilizer as intended in paragraphs 1 to 9 of Part II hereof that contains harmful elements as identified in Table 9, must meet the requirements as specified in the table.

PART III

Liming materials

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

(1) it meets the requirements set out in Table 11.
(2) The fineness thereof with the exception of shell lime is as follows:

(a) that at least 50 % thereof passes through a 250 micron sieve (0,25 mm); and
(b) that at least 100 % thereof passes through a 1700 micron sieve (1,7 mm): on the understanding that a finer grade may be registered.

(3) the fineness of shell lime is as follows:

(a) that at least 60 % thereof passes through a 500 micron sieve (0,5 mm); and
(b) that at least 100 % thereof passes through a 1700 micron sieve (1,7 mm): on the understanding that a finer grade may be registered.

(4) the maximum moisture content thereof on an oven dry basis is 150 g/kg and the maximum moisture content of a liming material referred to in (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 1,2,3,4,5 and 6 of Table 11 hereof must be given in terms of Regulation 22 in respect of the liming materials, as well as the following information:

- **CCE values, according to the strong acid and relative resin suspension methods,**
- **Moisture content**
- **Sieve test**

Investigational allowances

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

Samples of fertilizers

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

Table 1

NITROGEN FERTILIZERS

	NAME OF PRODUCT	METHOD OF MANUFACTURE & 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	3	4	5	6
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. Urea form oldehyde 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	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
5	Urea	Chemically derived product that contains carbonyl diamide (carbamide) as essential component	450 g/kg N (solid) Total amine nitrogen (biurette included)	Same as for Ammonium Sulphate 1 - 8	Solubility (1)

	NAME OF PRODUCT	METHOD OF MANUFACTURE & 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	3	4	5	6
6	Low biurette urea	Chemically derived product that contains carbonyl diamide (carbamide) as essential component.	450 g/kg N (solid) Total amine nitrogen (biurette included) Biurette content lower than 0,5%		Solubility (1)
7	Limestone ammonium nitrate	Fused mixed product of powdered lime and ammonium nitrate pellets or prill.	200 g/kg N The minimum content of calcitic or dolomitic lime shall be 200 g/kg with a punty 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
8	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 10 g/kg
9	Aqua ammonia	Mixed product of water and ammonia	150 g/kg N	Same as for Ammonium Sulphate 1 - 8	Solubility (1)

	NAME OF PRODUCT	METHOD OF MANUFACTURE & 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	3	4	5	6
10	Urea formaldehyde	Reaction product 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 6(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 Explo-sives Act, Act no. 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 require-ments of the Explosives Act, Act 26 of 1956 and the regulations thereof.	Same as for Ammonium Sulphate 1 - 8	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 require- ments of the Explosives Act,Act 26 of 1956 and the regulations thereof		Solubility (1) and (7); Solubility (2) and (3) optional Solubility (1); Solubility (2); (3); and (4) optional

	NAME OF PRODUCT	METHOD OF MANUFACTURE & 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	3	4	5	6
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)		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_3 - N, 60 g/kg NH_4 + .N 30 g/kg Mg	1. Total N 2. Ammonium-N 3. Nitrate-N 4. Amine-N 5. Cyanamide-N 6. Urea Form Oldehyde 6a Luke warm water soluble-N 6b Hot water soluble-N 7. Total calcium 8. Total magnesium	Solubility (1); Solubility (2), (3) and (8) Optional
17	Anhydrous ammonia	Chemically derived products with NH_3 as essential component	800 g/kg N		Stability (1)

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

TABLE 2

PHOSPHORUS FERTILIZER

	NAME OF PRODUCT	METHOD OF MANUFACTURE & 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	3	4	5	6
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_3 + HC1) 3. P soluble in 2% citric acid 4. Total calcium 5. Total Sulphur	Solubility (3); Solubility (2) Optional
2	Superphosphate	Product derived from the reaction of milled mineral phosphate with sulphuric 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 lease 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

	NAME OF PRODUCT	METHOD OF MANUFACTURE & 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	3	4	5	6
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 lease 25% must be water soluble. Particle size of phosphate rock: - At lease 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. -	Same as for Basic Slag 1 - 5	Solubility (1) and (2) solubility (3); (4) and (5) optional provided the calcium and sulphur contents are at least 10 g/kg.
4	Dicalcium phosphate	Product derived from the precipitation of soluble phosphoric acid with mineral phosphates or bones and contains dicalcium phosphate hydrate as essential component.	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.		Solubility (3); Solubility (2) and (4) optional provided the calcium content is at least t 10 g/kg.

	NAME OF PRODUCT	METHOD OF MANUFACTURE & 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	3	4	5	6
5	Super and sedimentary milled phosphate rock	Shall consist of a mixture of Superphosphate powder and sedimentary milled phosphate rock	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.	Same as for Basic Slag 1 - 5	Solubility (1), (2) and (3). Solubility (4) and (5) optional, provided the calcium and sulphur content are at least 10 g/kg
6	Phosphoric acid solution	Chemically derived product that contains phosphoric acid as essential component.	100 g/kg P soluble in mineral acids.		Solubility (2)

	NAME OF PRODUCT	METHOD OF MANUFACTURE & 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	3	4	5	6
7	Sedimentary milled phosphate rock powder	Product derived from milling sedimentary phosphate rock and contains carbonate appetite 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 extraction's with 2% citric acid. Particle size: - At least 80% 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.	Same as for Basic Slag 1 - 5	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".

	NAME OF PRODUCT	METHOD OF MANUFACTURE & 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	3	4	5	6
8	Phosphate rock-sedimentary phosphate rock (micro granules)	Product derived through milling sedimentary phosphate rock and contains carbonate appetite 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: - At least 20% 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.	Same as for Basic Slag 1 - 5	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 “U G” (UK)
9.	Fused phosphate	Melted/fusion of natural phophate and Mangnesium hidro-silicate rock	At least 100g/kg P soluble In strong acid of which at Least 97,4% is soluble in 2% citric acid 60g/kg Mg soluble in 2% citric acid 100 g/kg Si	1.) P soluble in 3% citric acid. 2.) Mg soluble in 2% citric acid. 3.) Ca soluble in 2% citric acid 4.) Si soluble in 2% citric acid	

			soluble in 2% citric acid .		

TABLE 3

POTASSIUM FERTILIZERS					
	NAME OF PRODUCT	**METHOD OF MANUFACTURE 7 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**	**3**	**4**	**5**	**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); (2); Solubility (3) optional, provided the sulphur contents is at least 10 g/kg**
3	**Potassium Sulphate**	**Product chemically derived from potassium salts and contains potassium sulphate as essential component.**	**390 g/ kg K (solid) 30 g/kg K (liquid) Maximum chlorine contents: 30 g/kg C1**		**Solubility (1); Solubility (3) Optional, provided it contains at least 10 g/kg sulphur. Declaration of "low chlorine" must meet requirements of**

					guideline 5(g)

	NAME OF PRODUCT	METHOD OF MANUFACTURE & 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	3	4	5	6
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	Same as for Potassium 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 guideline 5(g)
5	Potassium nitrate	Product chemically derived from potassium salts and contains potassium nitrate as essential components.	300 g/kg N (solid) 100 g/kg N (liquid)		Solubility (1) and (6)
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.
• Cold water soluble potassium unless specified otherwise • Products 1 - 6 listed are chemically derived products.					

TABLE 4

FERTILIZERS THAT CONTAIN MAINLY CALCIUM, MAGNESIUM OR SULPHUR					
	NAME OF PRODUCT	**METHOD OF MANUFACTURE & ESSENTIAL COMPONENTS**	**MINIMUM PLANT NUTRIENT CONTENT, FORM, AND OTHER REQUIREMENTS**	**FORMS AND SOLUBILITIES TO BE DECLARED IN COLUMN 6**	**DECLARATION OF SOLUBILITIES AND OTHER NORMS**
1	**2**	**3**	**4**	**5**	**6**
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); Solubility (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**

7TABLE 5

FERTILIZER MIXTURES CONTAINING 2 OR MORE MAIN PLANT NUTRIENTS

	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	K
1	2	3	4	5	6	7	8	9	10
				1.	1.				
NPK-, NP-, NK- or PK-fertilizers	Product chemically derived or through mixing 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	2. Total N 3. Nitrate-N 4. Ammonium-N 5. Amine-N 6. Cyanamide-N 7. Urea for-maldehyde	2. Water soluble P 3. P soluble in mineral acids 4. P 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 solubilized phos-phate rock or sedimentary milled phosphate rock must be declared in terms of solubility (3); solubility (1) and (2) optional. For this type (1) the test sample for solubility determination (2) and (3) shall be 1 gram 2) An NPK-, NP- or Pk fertilizer that: a) contains basic slag or calcium magnesium silico phosphate, must be declared in terms of	1) Total K 2) Declaration of “low” chlorine” must meet the requirements of guideline 5(g) 3) Chlorine content may be declared.

								solubilities (1), (2) and (3); b) sedimentary milled phosphate rock or partially solubilized sedimentary phosphate rock, must be declared in terms of solubility (2) and (3) The presence of these phosphate sources must be declared and, in the case of sedimentary milled phosphate rock, its fineness and contribution to total P must be declared. For this type (2) the test sample for solubility deter-mination (1), (2) and (3) shall be 3 gram.	
							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	**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 the application for registration must indicate the fineness and origin of the**	

	component is less than 500 g/kg (m/m)							**source.**	
							The declaration of the type/origin of the organic component, as well as the content thereof in the mixture, is compulsory		

TABLE 6

FERTILIZER MIXTURES CONTAINING 2 OR MORE MAIN PLANT NUTRIENTS

	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**	**K**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**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.**	**100 g/kg N + P + K 80 g/kg N + P 100 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 at least 1% they may declared.**	**Water soluble P**	**1) Water soluble K 2) Declaration of "low chloride"must meet the requirements of guideline 5(g) 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.		
NPK-, NP-,	**Product in liquid**	**100 g/kg N**	**10 g/kg per**	**1. Total N 2.**	**1.**	**Total K**	**1) Total N 2) If**	**P content**	**1) Total K 2)**

NK- or PK-fertilizer suspension	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.	+ K + K 100 g/kg N + P 100 g/kg N + K 100 g/kg P + K	element	Nitrate-N 3. Ammonium-N 4. Urea-N	Water soluble P 2. P soluble in 2% citric acid		any of the N forms (2) to (4) are present at at least 1% by mass, may be declared.	must be declared in terms of solubility (2); solubility (1) is optional	Declaration of "low chlorine" must meet the requirements of guideline 5(g) 3) The chlorine content may be declared.
							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 GUANO AND OTHER PRODUCTS DERIVED FROM ANIMAL ORIGIN

	Minimum nitrogen content	Minimum of sum of nitro-gen, total phosphorus and total potassium content	Further requirements	Particulars of plant nutrients to be indicated/
1	2	3	4	5
	g/kg	g/kg		
Guano	70	120	Shall consist mainly of the excreta of sea birds/	(i) Nitrogen content (N)
Phosphate guano	30	100		(ii) Total phoshorus content P
				(iii) Total potassium content K
Carcass meal	60	100	Shall be of animal origin/	

	Minimum nitrogen content	Minimum of sum of nitro-gen, total phosphorus and total potassium content	Further requirements	Particulars of plant nutrients to be indicated/
Hoof and horn meal	**60**	**100**		
Bonemeal	**40**	**100**		

Table 8

REQUIREMENTS FOR MUNICIPAL WASTE

PARAMETER	PERMISSIBLE LEVELS
Moisture	**400 g/kg maximum**
Inorganic materials	**700 g/kg maximum**
Plastic	**20 g/kg maximum**
Glass (5,6 mm)	**20 g/kg maximum**
Humic acids	**150 g/kg minimum**
Fatty acids	**2 000 mg/kg maximum**
Growth index	**0,6 mg/kg minimum**
Ascaris ova	**0**
Coliphage	**0**
Salmonellae	**0**

TABLE 9

CLASSIFICATION OF SEWAGE SLUDGE TO BE USED OR DISPOSED OF ON LAND

TYPE OF SEWAGE SLUDGE			
TYPE D SLUDGE **A sludge product produced for unrestricted use on land with or without addition of plant nutrients or other materials**	**Pasteurised sludge** **Heat-treated sludge** **Lime stabilised sludge** **Composted sludge** **Irradiated sludge**	***** ***** ***** *****	**Certified to comply with the following quality requirements - Stabilised - should not cause odour nuisances of fly-breeding - Contains no viable *Ascaris* ova per 10 g dry sludge - Maximum 0 *Salmonella* organisms per 10 g dry sludge - Maximum 1000 *Faecal coliform* per 10 g dry sludge immediately after treatment (disinfection/sterilisation)** **Maximum metal and inorganic content in mg/kg dry sludge** **Available 1** / **Available (by TCLP method)** / **TOTAL** **Cadmium** / **15,7** / **20** **Cobalt** / / **100** **Chromium (Cr^3)** / / **1750** **Copper** / **50,5** / **750** **Mercury** / / **10** **Molybdenum** / / **25** **Nickel** / / **200** **Lead** / **50,5** / **400** **Zinc** / **353,5** / **2750** **Arsenic** / / **15** **Selenium** / / **15** **Boron** / / **80** **Florine** / / **400** **User must be informed about the moisture and N P K content** **User must be warned that not more than 8 t/ha. Year (or kg/10 sq m) (dry sludge) may be applied to soil and that the pH of the soil should preferably be higher than 6,5** **1 Toxic Characteristic Leaching Procedure (TCLP)**

TABLE/TABEL 10

ENRICHED ORGANIC AND ORGANIC FERTILIZER

NAME OF PRODUCT	METHOD OF MANUFACTURE	MINIMUM PLANT NUTRIENT CONTENT; OTHER REQUIREMENTS		DECLARATION OF FORMS, SOLUBILITIES AND OTHER NORMS		
		TOTAL	PER ELEMENT	N	P	K
1	2	3	4	5	6	7
Enriched organic fertilizer	A product that is formed by mixing the organic and inorganic fertilizers; with an organic component (organic C x 1,72) of at least 330 g/kg (m/m)	100 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.						

NAME OF PRODUCT	METHOD OF MANUFACTURE	MINIMUM PLANT NUTRIENT CONTENT; OTHER REQUIREMENTS		DECLARATION OF FORMS, SOLUBILITIES AND OTHER NORMS		
		TOTAL	PER ELEMENT	N	P	K
1	2	3	4	5	6	7
Organic fertilizer mixture	A product formed by mixing the different organic fertilizers, without addition of inorganic	100 g/kg	None Specific	None Specific	Citric acid soluble P Optional Total P	None Specific Geen Spes

	fertilizers.					

TABLE 11
REQUIREMENTS FOR AGRICULTURAL LIME MATERIAL (OVEN DRY BASIS)

1	**2**		**3**		**4**	**5**		**6**		**7**		**8**
NAME OF LIMING MATERIAL	**CALSIUM**		**MAGNESIUM**		**S_1O_2**	**$CaCO_3$**		**$MgCO_3$**		**Ca and Mg** **Ca en Mg**		**CCE (Strong acid) KKE (sterk-suur)**
	Min g/kg	**Max g/kg**	**Min g/kg**	**Max g/kg**		**Min g/kg**	**Max g/kg**	**Min g/kg**	**Max g/kg**	**Oxides Min. g/kg**	**Hydroxides**	**Min %**
Calcitic Agricultural Lime				**43**								**70**
Dolomitic Agricultural Lime			**43**									**70**
Magnesite		**10**	**275**				**25**	**970**				**70**
Calcite	**380**			**9**		**950**			**35**			**70**
Unslaked Calcitic Agricultural Lime				**43**						**700**		**70**
Slaked Calcitic Agricultural Lime				**43**							**700**	**70**
Unslake Dolomitic Agricultural Lime			**43**							**700**		**70**
Slaked Dolomitic Agricultural Lime			**43**								**700**	**70**
Shell Lime				**43**								**70**

Slags and Silicates					**300**							
Magnesitic Agricultural Lime			**190**									**70**

TABLE 12

REQUIREMENTS FOR MICRO-ELEMENT COMPOUNDS THAT CONTAIN ONLY ONE ELEMENT

PRODUCT		MINIMUM MICRO-ELEMENT CONCENTRATION g/kg OTHER REQUIREMENTS	DECLARATIONS OF SOLUBILITY AND OTHER PROPERTIES
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 Water soluble B Water soluble B
1.3	Calcium Borate	70 g/kg total B	Water soluble 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 (mixtures of 1.11, 1.12)	Water soluble B
1.6	Boron Frit		Total 13 : Specify slowly available - Frit

TABLE 12.2 COMPOUNDS CONTAINING COPPER (Cu)			
2.1	Copper Sulphate Pentahydrate	260 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 Oxichloride	500 g/kg total Cu	Total Cu 90% suspendable in water
2.5	Copper Edta Chelate	140 g/kg water soluble Cu at least 80% in chelate form	Water soluble Cu
2.6	Copper Fertilizer (Dry) 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.
2.7	Copper Fertilizer (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
2.8	Copper Amino Acid Chelate	200 g/kg in form of amino acid chelate	Water soluble Cu
2.9	Copper Frit	150 g/kg total Cu	Total Cu; Specify slowly available - Frit

TABLE 12.3 COMPOUNDS CONTAINING IRON (Fe)			
3.1	Iron Sulphate Hepta Hydrate	120 g/kg water soluble Fe	Water soluble Fe
3.2	Iron EDTA Chelate Liquid Solid	60 g/kg water soluble Fe + 3 130 g/kg water soluble Fe + 2 of which at least 80% in chelate form	Water soluble Fe
3.3	Iron DTPA Chelate Liquid Solid	60 g/kg water soluble Fe + 3 110 g/kg water soluble Fe 12 of which at least 80% in chelate form	Water soluble Fe
3.4	Iron EDDHA Chelate	60 g/kg Fe + 3 of which at least 80% in chelate form. At least 15% of chelate form as orto-orto-form LG. At least 60% of chelate form as orto orto form HG	Water soluble Fe; declaration of grade optional
3.5	Iron Amino-acid Chelate	50 g/kg Fe + 2 in amino acid chelate form	Water soluble Fe
3.6	Iron Fertilizer (Powder or Granule) Manufactured from 3.1 - 3.5	50 g/kg total Fe	Declare components; Total Fe, chelated Fe optional.
3.7	Iron Fertilizer (Liquid) Manufactured from 3.1 - 3.5	30 g/kg water soluble Fe	Water soluble Fe; % chelated iron optional
3.8	Iron Frit	300 g/kg total Fe	Total Fe; Specify slowly available - Frit

TABLE 12.4 COMPOUNDS CONTAINING MANGANESE (Mn)			
4.1	Manganese Sulphate Monohydrate	170 g/kg water soluble Mn	Water soluble Mn
4.2	Manganese Edta Chelate	100 g/kg water soluble Mn; of which at least 80% in chelate form	Water soluble Mn
4.3	Manganese Amino Acid Chelate	56 g/kg chelated by amino acids	Water soluble Mn
4.4	Manganese Oxide	400 g/kg total Mn	Total Mn
4.5	Manganese Fertilizer (Dry) Manufactured from 4.1 - 4.3	170 g/kg total Mn	Declare components; total Mn, water soluble Mn optional if more than 25% of total; chelated Mn % Optional
4.6	Manganese Fertilizer (Liquid) Manufactured from 4.1 - 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 - Frit

TABLE 12.5 COMPOUNDS CONTAINING MOLYBDENUM (Mo)			
5.1	Sodium Molybdate	350 g/kg water soluble Mo	Water soluble Mo
5.2	Ammonium Molybdate	500 g/kg water soluble Mo	Water soluble Mo
5.3	Sodium Ammonium Molybdate (powder or granules) Manufactured from 5.1 and 5.2d	350 g/kg water soluble Mo	Water soluble Mo
5.4	Sodium Ammonium Molybdate (liquid) Manufactured from 5.1 and 5.2	30 g/kg water soluble Mo	Water soluble Mo

TABLE 12.6 COMPOUNDS CONTAINING ZINC (Zn)			
6.1	Zinc Sulphate Hepta Hydrate	150 g/kg water soluble Zn	Water soluble Zn
6.2	Zinc EDTA : Solid Liquid	150 g/kg water soluble Zn 100 g/kg water soluble Zn; of which at least 80% in chelate form.	Water soluble Zn
6.3	Zinc DTPA	60 g/kg water soluble Zn; of which at least 80% in chelate form	Water soluble Zn
6.4	Zinc amino acid chelate (liquid)	68 g/kg water soluble Zn, in amino acid chelate form	Water soluble Zn
6.5	Zinc Oxide	500 g/kg total Zn	Total Zn
6.6	Zinc fertilizer (powder or granule) Manufactured from 6.1 - 6.5	300 g/kg total Zn	Declare components; Total Zn; water soluble Zn if not more than 25% of the total zinc is water soluble.
6.7	Zinc fertilizer (liquid) Manufactured from 6.1 - 6.5	30 g/kg water soluble Zn	Water soluble Zn
6.8	Zinc frit	180 g/kg total Zn	Total Zn, Specify: slowly available - Frit

Notes relating to table:

1. A chelating agent may be indicated by its abbreviation, as set out in Table 15

2. Where a micro-element is present in the chelate form, the pH range in which it is stable, must be given.

3. Trade marks may be added to the name in all cases.

4. The combined cation and/or arion, whichever is applicable, must be indicated with the micro-elements.

5. Inert filler material may be used in product formulation.

6 The label must contain guidelines/instructions for application in respect of crop, dosage and method of application.

TABLE/TABEL 13

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

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

Notes in respect of Table

1. Values in table refer to solids and liquid products.
2. Only products complying with the requirements of Table 12 may be used in micro-element mixtures.
3. Minimum total micro-element content for:
   Powders/granular mixtures - 50 g/k
   Liquid mixtures - 20 g/kg
4. Each label must indicate the total and water soluble 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.

TABLE 14

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
Boron (B) Boron	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 12 may be used.

2. Each label must indicate the total and water soluble.

3. Guidelines for application in respect of crop, dosage and application method must appear on the label.

TABLE/TABEL 15

APPROVED ORGANIC CHELATING AGENTS

SODIUM, POTASSIUM OR AMMONIUM SALT OF	
CHELATING AGENT	**RECOGNIZED ABBREVIATION**
Ethylene diamine tetra-acetic acid	**EDTA**
Diethylene triamine penta-acetic acid	**DTPA**
Ethylene diamine di (O-hydroxyphenyl)	**EDDHA**
Hydroxy-2-ethylenediamine-tri acetic acid	**HEEDTA**
Ethylene diamine-di (O-hydroxy-P-methyl acetic acid	**EDDHMA**
Ethylene diamine-di (5- carbpxy-2-hydroxy phenyl) acetic acid	**EDDCHA**
Amino acid	**AAC**

Notes in respect of Table

1. The list may be augmented with the necessary biological confirmation

2. International chemical abbreviations may be used to indicate the name of the product.

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	**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 formulae:

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

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

* 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 PLANT NUTRIENT CONTENT (E) %	**DEVIATION (D) FROM E PERMITTED**	**RELATIVE DEVIATION (RD) FROM E PERMITTED E %**
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 formulae:

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

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

* N, P, K, Ca, Mg and/en S

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 %**
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 formulae:

$$D = 0{,}233333\,E + 0{,}016667$$

$$RD = \frac{1{,}6667}{E} + 23{,}3333 = \frac{D}{E}\,100$$

PART IV SAMPLING OF FERTILIZERS

THE MANNER OF TAKING, MARKING, SEALING AND FASTENING UP OF SAMPLES

A. General instructions for the taking of samples

1. In the case of fertilizer in containers, only unopened containers which appear to the inspector proposing to take the sample to be the original containers of the fertilizer shall be selected for the purpose of sampling.

2. The sample shall be taken and prepared as quickly as possible taking the precautions necessary to ensure that it remains representative of the sampled portion. Instruments, surfaces and containers used in sampling shall be clean and dry.

3. No sample shall be drawn from any part of the sampled portion, which appears to be damaged.

4. When lumps are naturally present in a fertilizer, they shall, if possible, be broken up and mixed with the quantity from which a sample is to be drawn. Failing this they shall be removed from the material from which a sample is to be drawn and the mass of the residue of that material and the mass of the lumps ascertained and reported to the laboratory. In addition, a representative sample of the lumps shall be sent to the laboratory with the final sample.

5. An inspector who intends to take a sample on premises shall:-

   (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.

6. The sampling apparatus shall be made of materials which cannot affect the characteristics of the materials to be sampled.

7. 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 slots 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".

8. Notwithstanding the provisions of these Regulations, a sampling spear shall 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.

9. 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.

10. 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.

11. A sample taken in accordance with the methods described in Paragraph C shall be deemed to be representative of the sampled portion.

B. Quantitative requirements

1. Sampled portion

Sampled portion to be identified and specified on site in conjunction with manufacturer/supplier. The sampled portion shall 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 shall 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 greater than 1 kg in mass the number of containers shall be selected in accordance with Table 20 in Paragraph F 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 shall be selected in accordance with Table 19 in Paragraph F 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 shall be selected in accordance with Table 20 in paragraph F 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 shall be selected in accordance with Table 21 in paragraph F of this Regulation;

(ii) where each container in the sampled portion contains more than 100 litres an incremental sample shall be drawn from each container.

3. Composite sample

The mass or volume, as appropriate, of the composite sample shall be not 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 mass or volume, as appropriate, of each final sample shall not be less than the following:-

(a) solid fertilizers 1 000 g (2 000 g for bulk blends)

(b) fluid fertilizers 500 m^2

C. Taking and preparation of samples

Incremental samples

1. Incremental samples of approximately equal sizes shall 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 shall 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 shall 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 shall be taken in accordance with subparagraph (ii) or (iv) of this paragraph as appropriate. These shall be crushed immediately and the whole 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 shall be emptied separately and the matted portions broken up and the whole of the contents of each package shall be thoroughly mixed. The incremental samples shall then be taken in accordance with subparagraphs (ii) and (iv) of this paragraph as 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 in paragraph F, i.e. 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 shall be taken in accordance with the relevant provisions of paragraph C1(a)(v) or l(a)(vi), as appropriate;

(c) in the case of fluid fertilizers in containers each containing not more than 100 litres, the number of containers to be selected shall be taken in accordance with Table 21 in paragraph F and –

(i) where the containers each contain not more than 1 litre the entire contents of the selected containers shall be transferred into a clean dry vessel of suitable material;

(ii) where the containers each contain 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 with-drawn 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 shall 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; otherwise

(ii) if the liquid is homogeneous, about l litre shall 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, or

(iii) if the liquid is not homogeneous, the contents shall be well stirred or otherwise agitated and sampling shall then proceed as in subparagraph (ii), but

(iv) if it is not possible to make the liquid homogeneous, 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 shall be sampled by using the modified lndiana sampler.
The appropriate process shall be repeated until a quantity of not less than 4 litres has been withdrawn.

(v) where a sampled portion consists of two or more containers, incremental samples of approximately equal size shall be taken from each, drawn in the manner described in subparagraphs (d), (ii), (iii) or (iv), as appropriate, and shall be placed in a clean dry vessel of suitable material.

Composite sample

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

Reduced sample

3. In the case of solid fertilizers the composite sample shall, if necessary, be reduced to not less than given in paragraph B in the following manner:-

(i) the material shall be heaped to form a "cone", which shall then be flattened and quartered. Two diagonally opposite quarters shall be rejected and the remainder shall then be mixed and the quartering and rejection contained as necessary; or

(ii) the reduction method effected by the use of a mechanical device.

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

Final Samples

4. The final samples shall be obtained in the following manner:-

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

5. If increments are taken by sampling spear, take not less than two cores per sampling point, to give not less than 12 cores.

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

1. Each container of a final sample shall be so secured and sealed by the person taking the sample that the container cannot be opened without breaking the seal.

2. A label shall be attached to the container and shall be marked with the following particulars, which shall be visible without the seal broken:

(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

(f) identification code, batch reference number or consignment identification of the material sampled, where readily available.

SAMPLING TABLES

TABLE 19

FERTILIZERS IN CONTAINERS

NUMBER OF CONTAINERS IN SAMPLED PORTION	NUMBER OF CONTAINERS TO BE SELECTED FOR SAMPLING
1 to 7	All containers
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

SIZE OF SAMPLED PORTION IN TONS	NUMBER OF INCREMENTAL SAMPLES REQUIRED
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 39	Not less than 28
Greater than 39 and up to and including 42	Not less than 29
Greater than 42 and up to and including 45	Not less than 30
Greater than 45 and up to and including 48	Not less than 31
Greater than 48 and up to and including 51	Not less than 32
Greater than 51 and up to and including 54	Not less than 33
Greater than 54 and up to and including 57	Not less than 34
Greater than 57 and up to and including 61	Not less than 35
Greater than 61 and up to and including 64	Not less than 36
Greater than 64 and up to and including 68	Not less than 37
Greater than 68 and up to and including 72	Not less than 38
Greater than 72 and up to and including 76	Not less than 39
Greater than 76	Not less than 40

TABLE 21

LIQUID FERTILIZERS

NUMBER OF CONTAINERS IN SAMPLED PORTION	NUMBER OF CONTAINERS TO BE SELECTED FOR SAMPLING
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

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