

TABLE 6

LIQUID FERTILIZER MIXTURES CONTAINING 2 OR MORE MACRO ELEMENTS

	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 5	P 6	K 7	N 8	P 9
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 80 g/kg N + K 80 g/kg P + K	10 g/kg per element	1. Total N 2. Nitrate-N 3. Ammonium-N 4. Urea-N	Water-soluble P	Water-soluble K	1) Total N 2) If any of the N forms (2) to (4) are present at least 1% they may be declared.	Water-soluble P	1) Water-soluble K 2) Declaration of "low chloride" must meet the requirements of regulation 5(2). 3) The chloride content may be declared.
NPK-, NP-, NK- or PK-fertilizer suspension	Production in liquid form in which the plant nutrients are derived from substances both in suspension in the water, and in solutions without the addition of organic plant nutrients of animal or plant origin.	100 g/kg N + P + K 80 g/kg N + P 80 g/kg N + K 80 g/kg P + K	10 g/kg per element	1. Total N 2. Nitrate-N 3. Ammonium-N 4. Urea-N	1. Water-soluble P 2. P soluble in 2% citric acid	Total K	Calcium, Magnesium and Sulphur may be declared, provided the content thereof is at least 10, 5 and 10 g/kg respectively. 1) Total N 2) If any of the N forms (2) to (4) are present at least 1% by mass, may be declared.	P content must be declared in terms of solubility (2); solubility (1) optional	1) Total K 2) Declaration of "low chloride" must meet the requirements of regulation

	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		
				N	P	K	N	P	K
1	2	TOTAL 3	4	5	6	7	8	9	10
									5(2). (3) The chloride 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 MICRO-NUTRIENT COMPOUNDS THAT CONTAIN ONLY ONE ELEMENT

1	2	3	4
Product	Minimum Micro-nutrient concentration - g/kg Other requirements		Declarations of Solubilities and other properties
7.1	Compounds containing BORON (B)		
1.1	Boric acid	140 g/kg water-soluble B	Water-soluble B
1.2	Sodium borate: Fertilizer grade Spray grade	100 g/kg water-soluble B 150 g/kg water-soluble B	Water-soluble B
1.3	Calcium borate	70 g/kg total B	Water-soluble B, total B
1.4	Boron ethanol amine	80 g/kg water-soluble B	Water-soluble B
1.5	Boron fertilizer in solution or suspension	20 g/kg water-soluble B	Water-soluble B, Total B State the crystallization temperature Total B, Specify "slowly available"
1.6	Boron frit		
7.2	Compounds containing COPPER (Cu)		
2.1	Copper sulphate pentahydrate	250 g/kg water-soluble Cu	Water-soluble Cu
2.2	Copper oxide	700 g/kg total Cu	Total Cu
2.3	Copper hydroxide	450 g/kg total Cu	Total Cu
2.4	Copper oxychloride	500 g/kg total Cu	Total Cu, Particle size at least 98% passing through a 0,063 mm sieve
2.5	Copper oxychloride suspension	170 g/kg total Cu	Total Cu
2.6	Copper EDTA chelate	140 g/kg Cu - solid 117 g/kg Cu - liquid Min 80% chelated	Water-soluble Cu
2.7	Copper fertilizer in dry form manufactured from 2.1, 2.2, 2.3, 2.4 or 2.5	50 g/kg total Cu	Declare components: Total Cu; Soluble Cu optional if water-soluble fraction greater than 25% of total
2.8	Copper fertilizer in solution manufactured from 2.1, 2.2, 2.3, 2.4 or 2.5	30 g/kg water-soluble Cu	Water-soluble Cu; chelated Cu
2.9	Copper amino acid chelate	40 g/kg water-soluble Cu A scientifically accepted method to prove chelation should be provided in order to state that it is an amino acid chelate.	Water-soluble Cu
2.10	Copper frit	150 g/kg total Cu	Total Cu, Specify "slowly available"

1	Product	Minimum Micro-nutrient concentration - g/kg Other requirements	Declarations of Solubilities and other properties
2			
3			
4			
7.3	Compounds containing IRON (Fe)		
3.1	Iron sulphate heptahydrate	180 g/kg Fe	Water-soluble Fe
3.2	Iron sulphate monohydrate	300 g/kg Fe	Water-soluble Fe
3.3	Iron EDTA chelate	60 g/kg Fe - solid 40 g/kg Fe - liquid Min 80% chelated	Water-soluble Fe
3.4	Iron HEDTA	90 g/kg Fe - solid 78 g/kg Fe - liquid Min 80% chelated	Water-soluble Fe
3.5	Iron DTPA chelate	110 g/kg Fe - solid 78 g/kg Fe - liquid Min 80% chelated	Water-soluble Fe
3.6	Iron EDDHA chelate	60 g/kg Fe - solid Min 80% chelated	Water-soluble Fe
3.7	Iron amino acid chelate	HG - at least 60% of the chelate in "ortho-ortho" form. LG - at least 15% of the chelate in the "ortho-ortho" form. 50 g/kg water-soluble Fe. A scientifically accepted method to prove chelation should be provided in order to state that it is an amino acid chelate.	Water-soluble Fe
3.8	Iron fertilizer in dry form manufactured from 3.1, 3.2, 3.3, 3.4, 3.5 or 3.6	50 g/kg total Fe	Declare components: Total Fe, chelated Fe optional
3.9	Iron Fertilizer in solution manufactured from 3.1, 3.2, 3.3, 3.4, 3.5 or 3.6	30 g/kg water-soluble Fe	Water-soluble Fe, % chelated Fe optional
3.10	Iron frit	300 g/kg total Fe	Total Fe Specify "slowly available"
7.4	Compounds containing MANGANESE (Mn)		
4.1	Manganese sulphate monohydrate	300 g/kg water-soluble Mn	Water-soluble Mn
4.2	Manganese oxide	400 g/kg total Mn	Total Mn
4.3	Manganese EDTA chelate	130 g/kg Mn - solid 82 g/kg Mn - liquid Min 80% chelated	Water-soluble Mn
4.4	Manganese amino acid chelate	56 g/kg water-soluble Mn. A scientifically accepted method to prove chelation should be provided in order to state that it is an amino acid chelate.	Water-soluble Mn
4.5	Manganese fertilizer in dry form manufactured	300 g/kg total Mn	Declare components:

Product	Minimum Micro-nutrient concentration - g/kg Other requirements	Declarations of Solubilities and other properties
1	2	3
from 4.1, 4.2 or 4.3		4
4.6	Manganese fertilizer in solution manufactured from 4.1, 4.2 or 4.3	Total Mn Soluble Mn optional if water-soluble fraction greater than 25% of total
4.7	Manganese Frit	Water-soluble Mn, % chelated Mn optional
7.5	Compounds containing MOLYBDENUM (Mo)	Total Mn Specify "slowly available"
5.1	Sodium molybdate	Water-soluble Mo
5.2	Ammonium molybdate	Water-soluble Mo
5.3	Molybdenum fertilizer in dry form manufactured from 5.1 or 5.2	Water-soluble Mo
5.4	Molybdenum fertilizer in solution manufactured from 5.1 or 5.2	Water-soluble Mo
7.6	Compounds containing ZINC (Zn)	
6.1	Zinc sulphate heptahydrate	Water-soluble Zn
6.2	Zinc sulphate monohydrate	Water-soluble Zn
6.3	Zinc nitrate hexahydrate	Water-soluble Zn
6.4	Zinc nitrate hexahydrate solution	Water-soluble Zn
6.5	Zinc oxide	Total Zn
6.6	Zinc EDTA chelate	Water-soluble Zn
6.7	Zinc amino acid chelate	Water-soluble Zn
6.8	Zinc fertilizer in dry form manufactured from 6.1, 6.2, 6.3, 6.4, 6.5 or 6.6	Declare components: Total Zn Soluble Zn optional if water-soluble fraction greater than 25% of total
6.9	Zinc fertilizer in solution manufactured from 6.1, 6.2, 6.3, 6.4, 6.5 or 6.6	Water-soluble Zn, % chelated Zn optional
6.10	Zinc Frit	Total Zn, specify "slowly available"
6.11	Zinc-ash or Galvanizer's Ash	Zinc-ash should be registered as a raw material by the supplier of Zinc-ash

TABLE 8

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

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

Notes in respect of Table:

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

TABLE 9

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

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

Notes in respect of Table:

1. Only micro-element products complying with the requirements of Table 7 may be used.
2. Each label must indicate the total amounts.
3. Water soluble amounts must be declared

TABLE 10

APPROVED ORGANIC CHELATING AGENTS

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

Notes in respect to Table:

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

TABLE 11
 REQUIREMENTS FOR URBAN WASTE

PARAMETER 1	PERMISSIBLE LEVELS 2
Moisture	400 g/kg maximum
Inorganic materials	700 g/kg maximum
Plastic	20 g/kg maximum
Glass (5,6 mm)	20 g/kg maximum
Organic matter	150 g/kg minimum
Fatty acids	2 000 mg/kg maximum
Growth index	0,6 mg/kg minimum
Ascaris ova	0 (Absent)
Coliphage	0 (Absent)
Salmonellae	0 (Absent)

TABLE 12

MAXIMUM LEVELS OF POTENTIALLY HARMFUL ELEMENTS PERMITTED IN FERTILIZER PRODUCTS

ELEMENTS	Maximum inorganic content in mg/kg in dry sewage sludge*	Liming material and other products	Solid chemically compounded solid fertilizers or mixtures of fertilisers (mg/kg)	Liquid chemically compounded fertilizers or mixtures (mg/kg)	Foliar & Horticultural fertilizers mg/kg	Micro elements for soil Application mg/kg per 1% micro - nutrient
Cadmium	20	20	20	20	20	2.6
Cobalt	100					
Chromium	1750	1750	1750	1750	1750	
Copper	750	750	750	750	750	
Mercury	10	10	10	10	10	1.3
Molybdenum	25					
Nickel	200	200	200	200	200	
Lead	400	400	400	400	200	128.2
Zinc	2750	2750	2750	2750	2750	
Arsenic	15	50	50	50	50	12.8
Selenium	15	15	15	15	15	
Boron	80					
Fluorine	400					

*User must be informed about the moisture and N P K content and must be warned that not more than 8 t/ha/year (or 0.8 kg/ m²) (dry sewage sludge) may be applied to soil and that the pH of the soil should be higher than 6.5. (In the event that there are guidelines by Department of Water and Sanitation to sewage sludge, the applicant must adhere to such guidelines before the application can be evaluated).

**Except where they are applied as sources of micro-nutrient.

TABLE 13

REQUIREMENTS FOR GUANO AND OTHER PRODUCTS DERIVED FROM ANIMAL ORIGIN

1	Minimum nitrogen content	Minimum of sum of nitrogen, total phosphorus and total potassium content	Further requirements	Particulars of plant nutrients to be indicated
Guano	g/kg 70	g/kg 120	4	5
Phosphate guano	30	100	Shall consist mainly of the excreta of sea birds	(i) Nitrogen content (N)
Carcass meal	60	100	Shall be of animal origin and be sterilized according to an approved method under Regulations regarding Sterilizing Plants.	(ii) Total phosphorus content P (iii) Total potassium content K
Hoof and horn meal	60	100		
Bonemeal	40	100		

TABLE 14

ENRICHED ORGANIC AND ORGANIC FERTILIZER

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

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.

TABLE 16

PERMISSIBLE DEVIATIONS IN MAIN AND SECONDARY ELEMENTS IN INORGANIC FERTILIZER MIXTURES INCLUDING BULK BLENDS

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

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

$$D = 0,046875 \times E \quad +0,203125$$

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

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

** Including ammonified superphosphate

TABLE 17
 PERMISSIBLE DEVIATIONS IN MAIN AND SECONDARY ELEMENTS IN CHEMICALLY COMPOUNDED FERTILIZERS

REGISTERED PLANT NUTRIENT CONTENT, E %	DEVIATION (D) FROM E PERMITTED %	RELATIVE DEVIATION (RD) FROM E PERMITTED %
1	2	3
5	0,47	9,4
6	0,49	8,1
7	0,50	7,2
8	0,52	6,5
9	0,54	6,0
10	0,55	5,6
12	0,59	4,9
14	0,62	4,5
16	0,66	4,1
18	0,69	3,9
20	0,73	3,6
25	0,82	3,3
30	0,90	3,0
35	0,99	2,8
40	1,08	2,7
45	1,16	2,6
50	1,25	2,5

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

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

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

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

TABLE 18

PERMISSIBLE DEVIATIONS IN ADDED MICRO-ELEMENTS IN FERTILIZER MIXTURES

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

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

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

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

TABLE 19
FERTILIZERS IN CONTAINERS

NUMBER OF CONTAINERS IN SAMPLED PORTION 1	NUMBER OF CONTAINERS TO BE SELECTED FOR SAMPLING 2
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

1 SIZE OF SAMPLED PORTION IN TONS	2 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 an dup 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

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

ANNEXURE C

APPROVED PORTS OF ENTRY

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