

[PUBLISHED IN THE GAZETTE OF INDIA, EXTRAORDINARY, PART II,
SECTION 3, SUB-SECTION (ii)]

Government of India
Ministry of Agriculture
(Department of Agriculture and Cooperation)

Order

New Delhi, the 15th February, 2013

S.O.(E), In exercise of the powers conferred by section 3 of the Essential Commodities Act,- 1955 (10 of 1955), the Central Government hereby makes the following Order further to amend the Fertiliser (Control) Order, 1985, namely:-

1. (1) This Order may be called the Fertiliser Control (Amendment) Order, 2013.

(2) It shall come into force on the date of its publication in the Official Gazette.

2. In the Fertiliser (Control) Order, 1985, -

A. In Schedule I, in Part A, under the heading “Specification of Fertilisers”,-

(i) in sub-heading 1 (a) relating to STRAIGHT NITROGENEOUS FERTILISERS, after serial 11, the following serial number and entries shall be added, namely:-

“12. Urea Briquettes

(i)	Moisture per cent. by weight, maximum	1.0
(ii)	Total nitrogen per cent. by weight (on dry basis), minimum	46.0
(iii)	Biuret per cent. by weight, maximum	1.5
(iv)	Particle size: Not less than 90 per cent. of the materials shall pass through 5.7 mm IS Sieve, and not less than 80 per cent. by weight shall be retained on 3.8 mm IS sieve.”;	

(ii) in sub-heading 1 (b) relating to STRAIGHT PHOSPHATIC FERTILISERS, serial number 2 and entries relating thereto shall be omitted.

(iii) in sub-heading 1 (f) relating to MICRONUTRIENTS, after serial number 15 and entries relating thereto the following serial number and entries shall be added, namely:-

“16. Zinc Oxide Suspension Concentrate (39.5 % Zn)

(i)	Dense suspension concentrate of liquid Zinc	
(ii)	Zinc (as Zn) per cent by weight, minimum	39.5
(iii)	Nitrogen per cent. by weight, minimum	0.9
(iv)	pH	9.0±1
(v)	Specific gravity	1.71-1.75.”;

(iv) in sub-heading 1 (g) relating to FORTIFIED FERTILISERS,
in serial number 1,-.

(a) for item (iii) and entries relating thereto, the following shall be substituted, namely:-

“(iii) Water soluble phosphate (as P_2O_5) per cent by weight ,
minimum 14.5.”;

(b) after item (v), the following shall be inserted, namely:-

“(vi) Neutral ammonium citrate soluble phosphate (as P_2O_5) per cent by weight ,
minimum 16.0.”;

(c) after serial number 11 and entries relating thereto, the following shall be added, namely:-

“12. SSP fortified with Zinc

(i)	Moisture per cent. by weight, maximum.	12.0
(ii)	Free phosphoric acid (as P_2O_5) per cent by weight, maximum	4.0
(iii)	Water soluble phosphate (P_2O_5) per cent by weight minimum	14.5
(iv)	Neutral ammonium citrate soluble phosphate (as P_2O_5), per cent by weight, minimum	16.0
(v)	Sulphur (as S) per cent by weight, minimum	11.0
(vi)	Zinc (as Zn) per cent by weight, minimum	0.5.”;

B. In Schedule II, in Part B, METHODS OF ANALYSIS OF FERTILISERS,-

(a) in sub-heading 3, relating to Determination of nitrogen after item (h), the following shall be inserted, namely:-

“(i) Determination of Cyanamide nitrogen;”

(b) after serial number (xi), the following shall be inserted, namely:-

“(xi a) Determination of Cyanamide nitrogen

Cyanamide nitrogen is precipitated as a silver complex and estimated in the precipitate by Kjeldahl's method.

(a) Reagents:-

- i) Ammonical Silver Nitrate Solution- Mix 500 ml of 10% silver nitrate (AgNO_3) solution in water with 500 ml of 10% ammonia solution.
- ii) Glacial acetic acid
- iii) Remaining reagents as given in 3 (ii).

(b) Procedure:-

- (i) Weigh 2.5 g (W) sample and place it in a small glass mortar.
- (ii) Grind the sample 3 times with water, pouring off the water after each grinding into a 500 ml volumetric flask.
- (iii) Transfer quantitatively the sample into 500 ml volumetric flask, washing the mortar, pestle and funnel with water.
- (iv) Make up volume to approximately 400 ml.
- (v) Add 15 ml of glacial acetic acid.
- (vi) Shake on rotary shaker for 2 hours.
- (vii) Make up the volume to 500 ml with water, mix and filter.
- (viii) Transfer 25 ml of filtrate into 250 ml beaker.
- (ix) Add ammonia solution until slightly alkaline & add 20 ml of warm ammoniacal silver nitrate. Yellow precipitate will form.
- (x) Leave over night. Filter using Whatman No.40 filter paper and wash the precipitate with cold water until it is completely free of ammonia.
- (xi) Place the filter & precipitate in a Kjeldahl flask.
- (xii) Add 0.7 g copper sulphate, 15 g Potassium sulphate and 30 ml of H_2SO_4 .
- (xiii) Place flask in inclined position and heat gently.
- (xiv) Boil briskly until solution becomes clear or pale green.
- (xv) Continue digestion for 30 minutes more.
- (xvi) Remove from burner and cool.

- (xvii) Transfer the contents of Kjeldahl flask to 1 litre capacity, distillation flask, make volume to about 350ml with water and a pinch of zinc dust. Mix and cool.
- (xviii) Distill ammonia by adding 10ml of NaOH (40%) and collect the distillate in receiver conical flask containing 25ml of 0.1N HCl or H₂SO₄ containing 5 drops of Methyl red indicator.
- (xix) Titrate the contents in receiver conical flask with 0.1N NaOH & calculate the volume of 0.1 N HCl consumed (V).
- (xx) Determine blank on reagents using same quantity of standard acid in receiver conical flask.

(c) Calculation:

$$\text{Cyanamide Nitrogen \% (by weight)} = \frac{(\text{Blank} - V) \times 2.8}{W};$$

(c) after sub-heading 25, the following shall be added namely:-

“26. Method of analysis of Zincated Oxide (suspension)

- (i) Determination of total Zinc
By the method as specified in serial no. 25(ii),
- (ii) Determination of lead
By the method as specified in 8 (v)
- (iii) Determination of specific gravity
By the method as specified in 21

27. Determination of Boron in Colemanite :-

(a) Reagents

- (1) Mannitol
- (2) Bismuth nitrate solution: Dissolve 22g of bismuth nitrate {(BiNO₃)₃.5H₂O} in 8 ml of conc. Nitric acid. Warm slightly and dilute to 100 ml with distilled water.
- (3) Nitric acid – Concentrated AR grade.
- (4) Dilute nitric acid – (1:20).
- (5) Sodium hydroxide solution – 10% M/V.
- (6) Sodium hydroxide solution – 0.5M.
- (7) Bromothymol blue indicator solutions.

(b) Procedure:-

- (i) Weigh accurately 2.5g of sample into 250 ml of beaker.

- (ii) Add 5ml of concentrated Nitric acid and 50 ml of water, warm gently and dilute to 100 ml cool and transfer the contents into 250 ml volumetric flask and dilute to the mark with distilled water.
- (iii) Filter through a dry filter paper Whatman No.40 rejecting the first few drops into a beaker.
- (iv) Pipette 100 ml of the filtrate into 250 ml beaker, add a few drops of indicator solution.
- (v) Add few drops of 10% NaOH solution with thorough stirring until the indicator turns blue.
- (vi) Filter through a dry filter paper into 250 ml beaker and carefully wash the residue several times with cold water. The total volume should be 150-200 ml.
- (vii) Adjust the pH to about 5 by adding dilute nitric acid. Warm to about 90° C (do not boil) and stir vigorously to avoid carbon dioxide. Cool the solution.
- (viii) Adjust the pH to exactly 6.3 using NaOH solution.
- (ix) Add 10g of mannitol and again adjust pH to exactly 6.3 with 0.5 NaOH solution.
- (x) Continue adding mannitol in 10g portion till pH remains constant at 6.3. Note the total volume 0.5 NaOH use for the first addition of mannitol.
- (xi) Carry out a blank determination to which borate is not added.

(c) Calculation:-

$$\text{Percentage boron} = \frac{(A-B) \times 1.3512}{W}$$

Where A is the volume of 0.5 N NaOH solution used in the sample
 B is the volume of 0.5 N NaOH solution used in the blank.

28. Method of Analysis of Customized and Fortified Fertilizers:-

- (i) Determination of nitrogen by method 3 (iv) or 3 (v).
- (ii) Determination of ammoniacal nitrogen by method 3 (vii).
- (iii) Determination of neutral ammonium citrate soluble phosphate by method 4 (v).
- (iv) Determination of water soluble phosphate by method 4 (iii).
- (v) Determination of water soluble potash by method 5 (i).
- (vi) Determination of sulphur by method 24.
- (vii) Determination of micronutrients in Customized or Fortified Fertilisers.

(a) Sample Preparation:-

1. Weigh accurately 2.5g sample into a 250 ml beaker. Add 50 ml of 1+1 HCl and cover with a glass.
2. Heat to boiling and continue to boil until volume is reduced to about 25 ml.
3. Dilute to about 100 ml with water and bring to boil.
4. Cool, transfer to a 500 ml volumetric flask and dilute to volume with water.
5. Mix thoroughly and allow to stand until a clear solution is obtained or filter a portion through a dry whatman No.40 filter paper.
6. Transfer 25 ml aliquot to 250 ml volumetric flask, dilute to volume and mix thoroughly.
7. Dilute it further to suitable standard working range with acidified water.
8. Prepare a blank solution in the same manner, omitting the sample.

(b) Preparation of Standard Stock Solution, working standards and Determination:

As given in Method 22 A

(c) Determination of Boron-Method 23

C. In Schedule IV, in Part A under the heading SPECIFICATION OF ORGANIC FERTILISERS for serial No. 3 and entries relating thereto, the following shall be substituted, namely:-

“3 Phosphate Rich Organic Manure (PROM)

	Moisture per cent. by weight, maximum	25.0
(i)	Particle size	Minimum 90% material should pass through 4.0mm IS sieve
(ii)	Bulk density (g/cm^3)	less than 1.6
(iii)	Total organic Carbon, per cent. by weight, minimum	7.9
(iv)	Total Nitrogen (as N) per cent. by weight, minimum	0.4
(v)	Total Phosphates (as P_2O_5) per cent. by weight minimum	10.4
(vi)	C: N ratio	less than 20:1
(vii)	pH (1:5 solution) maximum	6.7
(viii)	Conductivity (as dSm^{-1}) not more than	8.2

(ix).	Heavy metal content (as mg/kg) Per cent. by weight maximum	
	Arsenic (as As ₂ O ₃)	10.00
	Cadmium (as Cd)	5.00
	Chromium (as Cr)	50.00
	Copper (as Cu)	300.00
	Mercury (as Hg)	0.15
	Nickel (as Ni)	50.00
	Lead (as Pb)	100.00
	Zinc (as Zn)	1000.00.”;

[F.No.2-1/2012.Fert.Law]

(Narenadra Bhooshan)
Joint Secretary to the Government of India

Note: The principal order was published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (i) vide G.S.R. No. 758(E) dated 25th September, 1985 and subsequently amended as follows:-

Note: The Principal Order was published in the Gazette of India, , vide number G.S.R.. 758 (E) dated the 25th September,1985 and subsequently amended by -

1. G.S.R.201(E) dated 14th February,1986
2. G.S.R. 508(E) dated 19th March,1986
3. G.S.R. 1160(E) dated 21st October, 1986
4. S.O. 822(E)dated 14th September,1987
5. S.O. 1079(E) dated 11th December,1987
6. S.O.252(E) dated 11th March,1988
7. S.O. 724(E) dated 28th July,1988
8. S.O. 725(E) dated 28th July,1988
9. S.O. 940(E) dated 11th October,1988
10. S.O. 498(E) dated 29th June,1989
11. S.O. 581(E) dated 27th July,1989
12. S.O. 673(E) dated 25th August,1989
13. S.O. 738(E) dated 15th September,1989
14. S.O. 140(E) dated 12th February, 1990
15. S.O. 271(E) dated 29th March,1990
16. S.O. 403(E) dated 23rd May,1990
17. S.O. 675(E) dated 31st August,1990
18. S.O. 261(E) dated 16th April,1991
19. S.O. 444(E) dated 2nd July,1991

20. S.O. 530(E) dated 16th August, 1991
21. S.O. 795(E) dated 22nd November, 1991
22. S.O. 377(E) dated 29th May, 1992
23. S.O. 534(E) dated 20th July, 1992
24. S.O. 826(E) dated 9th November, 1992
25. S.O. 254(E) dated 3rd June, 1993
26. S.O. 397(E) dated 18th June, 1993
27. S.O. 942(E) dated 10th December, 1993
28. S.O. 163(E) dated 14th February, 1994
29. S.O. 340(E) dated 17th April, 1995
30. S.O. 459(E) dated 22nd May, 1995
31. S.O. 835(E) dated 12th October, 1995
32. S.O. 575(E) dated 20th August, 1996
33. S.O. 57(E) dated 22nd January, 1997
34. S.O. 329(E) dated 12th May, 1999
35. S.O. 1068(E) dated 4th November, 1999
36. S.O. 49(E) dated 16th January, 2003
37. S.O. 373(E) dated 1st April, 2003
38. S.O. 413(E) dated 7th April, 2003
39. S.O. 540(E) dated 4th May, 2003
40. S.O. 342(E) dated 18th March, 2005
41. S.O. 1772(E) dated 17th October, 2006
42. S.O. 2164 (E) dated 28th December, 2007
43. S.O. 837 (E) dated 10th April, 2008
44. S.O. 1741(E) dated 22nd July, 2008
45. S.O. 401 (E) dated 5th February, 2009
46. S.O. 1214 (E) dated 14 May, 2009
47. S.O.No.2803(E) dated 3rd November, 2009
48. S.O. No. 49 (E) dated 11th January, 2010
49. S.O. No. 987(E) dated 29th April, 2010
50. S.O. No. 1230(E) dated 25th May, 2010
51. S.O. No. 1945(E) dated 10th August, 2010
52. S.O. No. 2024(E) dated 17th August, 2010
53. S.O. No. 2726(E) dated 8th November, 2010
54. S.O. No. 2886(E) dated 3rd December, 2010
55. S.O. No. 1023 (E) dated 10th May, 2011
56. S.O. No. 1169(E) dated 25th May, 2011
57. S.O. No. 2203(E) dated 22nd September, 2011
58. S.O. No. 1420 (E) dated 22nd June, 2012

To

The Manager,
Government of India Press, Mayapuri,
New Delhi.