

**Area specific mineral mixture formulations developed
based on the mineral mapping programme taken up
by NDDB and various centres under the ICAR Micro-
Nutrients Network Programme**

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**Area specific mineral mixture formulation for the state of
Andhra Pradesh and Telangana**

Sr. No.	Characteristic	Requirement	Method of Test Ref to
1	Moisture (%), Max.	5.0	Annex-A of IS 5470:2002
2	Calcium (%), Min.	26.0	IS 15121 or IS 13433 (Part 1) or IS 13574
3	Phosphorus (%), Min.	11.0	IS 14828
4	Copper (%), Min.	0.20	IS 15121
5	Zinc (%), Min.	1.40	IS 15121
6	Manganese (%), Min.	0.30	IS 15121
7	Iodine (%), Min.	0.026	Cl. No. 8 of IS 7874 (Part 2)
8	Chromium (%), Min.	0.004	S. No. 5 of FSSAI 09.005:2024 or ISO 20649:2015
9	Cobalt (%), Min.	0.02	Cl. No. 11 of IS 7874 (Part 2)
10	Fluorine (%), Max.	0.065	Annex B of IS 5470:2002
11	Acid insoluble ash (%), Max.	3.0	Cl. No. 10 of IS 7874 (Part 1)
12	Lead (ppm), Max.	20.0	A-7 of IS 1767
13	Arsenic (ppm), Max.	7.0	A-6 of IS 1767
Note: The values for requirements (2) to (13) are on moisture- free basis. In case of preparing chelated mineral mixture, calcium (%) is likely to be lower than the values mentioned above.			

**Area specific mineral mixture formulation for the state of
Arunachal Pradesh**

Sr. No.	Characteristic	Requirement	Method of Test ref to
1	Moisture (%), Max.	5.0	Annex-A of IS 5470:2002
2	Calcium (%), Min.	28.50	IS 15121 or IS 13433 (Part 1) or IS 13574
3	Phosphorus (%), Min.	8.0	IS 14828
4	Copper (%), Min.	0.20	IS 15121
5	Zinc (%), Min.	1.00	IS 15121
6	Manganese (%), Min.	0.30	IS 15121
7	Iodine (%), Min.	0.026	Cl. No. 8 of IS 7874 (Part 2)
8	Chromium (%), Min.	0.004	S. No. 5 of FSSAI 09.005:2024 or ISO 20649:2015
9	Cobalt (%), Min.	0.02	Cl. No. 11 of IS 7874 (Part 2)
10	Fluorine (%), Max.	0.05	Annex B of IS 5470:2002
11	Acid insoluble ash (%), Max.	3.0	Cl. No. 10 of IS 7874 (Part 1)
12	Lead (ppm), Max.	20.0	A-7 of IS 1767
13	Arsenic (ppm), Max.	7.0	A-6 of IS 1767
Note: The values for requirements (2) to (13) are on moisture-free basis. In case of preparing chelated mineral mixture, calcium (%) is likely to be lower than the values mentioned above.			

Area specific mineral mixture formulation for the state of Assam

Sr. No.	Characteristic	Requirement	Method of Test (Ref to)
1	Moisture (%), Max.	5.0	Annex-A of IS 5470:2002
2	Calcium (%), Min.	25.0	IS 15121 or IS 13433 (Part 1) or IS 13574
3	Phosphorus (%), Min.	10.0	IS 14828
4	Magnesium (%), Min.	2.0	IS 15121 or IS 13574
5	Copper (%), Min.	0.20	IS 15121
6	Zinc (%), Min.	1.20	IS 15121
7	Iodine (%), Min.	0.026	Cl. No. 8 of IS 7874 (Part 2)
8	Chromium (%), Min.	0.004	S. No. 5 of FSSAI 09.005:2024 or ISO 20649:2015
9	Fluorine (%), Max.	0.06	Annex B of IS 5470:2002
10	Acid insoluble ash (%), Max.	3.0	Cl. No. 10 of IS 7874 (Part 1)
11	Lead (ppm), Max.	20.0	A-7 of IS 1767
12	Arsenic (ppm), Max.	7.0	A-6 of IS 1767
Note: The values for requirements (2) to (12) are on moisture-free basis. In case of preparing chelated mineral mixture, calcium (%) is likely to be lower than the values mentioned above.			

**Area specific mineral mixture formulation for the state of
Bihar**

Sr. No.	Characteristic	Requirement	Method of Test (Ref to)
1	Moisture (%), Max.	5.0	Annex-A of IS 5470:2002
2	Calcium (%), Min.	20.0	IS 15121 or IS 13433 (Part 1) or IS 13574
3	Phosphorus (%), Min.	10.0	IS 14828
4	Magnesium (%), Min.	5.0	IS 15121 or IS 13574
5	Sulphur (%)	4.0–5.0	Annex B of IS 1664:2002
6	Copper (%), Min.	0.10	IS 15121
7	Zinc (%), Min.	1.0	IS 15121
8	Iodine (%), Min.	0.026	Cl. No. 8 of IS 7874 (Part 2)
9	Chromium (%), Min.	0.004	S. No. 5 of FSSAI 09.005:2024 or ISO 20649:2015
10	Cobalt (%), Min.	0.012	Cl. No. 11 of IS 7874 (Part 2)
11	Fluorine (%), Max.	0.06	Annex B of IS 5470:2002
12	Acid insoluble ash (%), Max.	3.0	Cl. No. 10 of IS 7874 (Part 1)
13	Lead (ppm), Max.	20.0	A-7 of IS 1767
14	Arsenic (ppm), Max.	7.0	A-6 of IS 1767

Note: The values for requirements (2) to (14) are on moisture-free basis. In case of preparing chelated mineral mixture, calcium (%) is likely to be lower than the values mentioned above.

**Area specific mineral mixture formulation for the state of
Chhattisgarh**

Sr. No.	Characteristic	Requirement	Method of Test (Ref to)
1	Moisture (%), Max.	5.0	Annex-A of IS 5470:2002
2	Calcium (%), Min.	20.0	IS 15121 or IS 13433 (Part 1) or IS 13574
3	Phosphorus (%), Min.	12.5	IS 14828
4	Magnesium (%), Min.	3.5	IS 15121 or IS 13574
5	Sulphur (%)	2.0-3.0	Annex B of IS 1664:2002
6	Copper (%), Min.	0.15	IS 15121
7	Zinc (%), Min.	1.34	IS 15121
8	Iodine (%), Min.	0.026	Cl. No. 8 of IS 7874 (Part 2)
9	Chromium (%), Min.	0.004	S. No. 5 of FSSAI 09.005:2024 or ISO 20649:2015
10	Cobalt (%), Min.	0.017	Cl. No. 11 of IS 7874 (Part 2)
11	Fluorine (%), Max.	0.06	Annex B of IS 5470:2002
12	Acid insoluble ash (%), Max.	3.0	Cl. No. 10 of IS 7874 (Part 1)
13	Lead (ppm), Max.	20.0	A-7 of IS 1767
14	Arsenic (ppm), Max.	7.0	A-6 of IS 1767

Note: The values for requirements (2) to (14) are on moisture-free basis. In case of preparing chelated mineral mixture, calcium (%) is likely to be lower than the values mentioned above.

**Area specific mineral mixture formulations for the state of
Gujarat**

Sr. No.	Characteristic	Requirement		Method of Test (Ref to)
		Panchmahal & Dahod	Rest of Gujarat*	
1.	Moisture (%), Max.	5.0	5.0	Annex-A of IS 5470:2002
2.	Calcium (%), Min.	23.0	22.0	IS 15121 or IS 13433 (Part 1) or IS 13574
3.	Phosphorus (%), Min.	11.0	14.50	IS 14828
4.	Sulphur (%)	4.0-5.0	2.0-3.0	Annex B of IS 1664
5.	Copper (%), Min.	0.10	0.14	IS 15121
6.	Zinc (%), Min.	1.00	1.20	IS 15121
7.	Iodine (%), Min.	0.026	0.026	Cl. No. 8 of IS 7874 (Part 2)
8.	Chromium (%), Min.	0.004	0.004	S. No. 5 of FSSAI 09.005:2024 or ISO 20649:2015
9	Cobalt (%), Min.	---	0.014	Cl. No. 11 of IS 7874 (Part 2)
10.	Fluorine (%), Max.	0.065	0.08	Annex B of IS 5470:2002
11.	Acid insoluble ash (%), Max.	3.0	3.0	Cl. No. 10 of IS 7874 (Part 1)
12.	Lead (ppm), Max.	20.0	20.0	A-7 of IS 1767
13.	Arsenic (ppm), Max.	7.0	7.0	A-6 of IS 1767
<p>Note: The values for requirements (2) to (13) are on moisture-free basis. In case of preparing chelated mineral mixture, calcium (%) is likely to be lower than the values mentioned above.</p> <p>*Junagadh, Rajkot, Porbandar, Amreli, Jamnagar, Surendranagar, Bhavnagar, Kutch, Mehsana, Patan, Banaskantha, Sabarkantha, Anand, Kaira, Ahmedabad, Gandhinagar, Vadodara, Surat, Bharuch, Narmada, Dangs, Navsari and Valsad districts.</p>				

**Area specific mineral mixture formulation for the state of
Haryana**

Sr. No.	Characteristic	Requirement	Method of Test (Ref to)
1	Moisture (%), Max.	5.0	Annex-A of IS 5470:2002
2	Calcium (%), Min.	26.5	IS 15121 or IS 13433 (Part 1) or IS 13574
3	Phosphorus (%), Min.	10.0	IS 14828
4	Copper (%), Min.	0.20	IS 15121
5	Zinc (%), Min.	1.40	IS 15121
6	Manganese (%), Min.	0.30	IS 15121
7	Iodine (%), Min.	0.026	Cl. No. 8 of IS 7874 (Part 2)
8	Chromium (%), Min.	0.004	S. No. 5 of FSSAI 09.005:2024 or ISO 20649:2015
9	Fluorine (%), Max.	0.06	Annex B of IS 5470:2002
10	Acid insoluble ash (%), Max.	3.0	Cl. No. 10 of IS 7874 (Part 1)
11	Lead (ppm), Max.	20.0	A-7 of IS 1767
12	Arsenic (ppm), Max.	7.0	A-6 of IS 1767
Note: The values for requirements (2) to (12) are on moisture-free basis. In case of preparing chelated mineral mixture, calcium (%) is likely to be lower than the values mentioned above.			

**Area specific mineral mixture formulation for the state of
Himachal Pradesh**

Sr. No.	Characteristic	Requirement	Method of Test (Ref to)
1	Moisture (%), Max.	5.0	Annex-A of IS 5470:2002
2	Calcium (%), Min.	28.0	IS 15121 or IS 13433 (Part 1) or IS 13574
3	Phosphorus (%), Min.	9.0	IS 14828
4	Copper (%), Min.	0.12	IS 15121
5	Zinc (%), Min.	0.80	IS 15121
6	Manganese (%), Min.	0.30	IS 15121
7	Iodine (%), Min.	0.026	Cl. No. 8 of IS 7874 (Part 2)
8	Chromium (%), Min.	0.004	S. No. 5 of FSSAI 09.005:2024 or ISO 20649:2015
9	Cobalt (%), Min.	0.01	Cl. No. 11 of IS 7874 (Part 2)
10	Fluorine (%), Max.	0.05	Annex B of IS 5470:2002
11	Acid insoluble ash (%), Max.	3.0	Cl. No. 10 of IS 7874 (Part 1)
12	Lead (ppm), Max.	20.0	A-7 of IS 1767
13	Arsenic (ppm), Max.	7.0	A-6 of IS 1767
Note: The values for requirements (2) to (13) are on moisture-free basis. In case of preparing chelated mineral mixture, calcium (%) is likely to be lower than the values mentioned above.			

**Area specific mineral mixture formulation for the state of
Jharkhand**

Sr. No.	Characteristic	Requirement	Method of Test (Ref to)
1	Moisture (%), Max.	5.0	Annex-A of IS 5470:2002
2	Calcium (%), Min.	20.0	IS 15121 or IS 13433 (Part 1) or IS 13574
3	Phosphorus (%), Min.	12.0	IS 14828
4	Magnesium (%), Min.	3.0	IS 15121 or IS 13574
5	Sulphur (%)	2.0-3.0	Annex B of IS 1664:2002
6	Copper (%), Min.	0.20	IS 15121
7	Zinc (%), Min.	1.40	IS 15121
8	Iodine (%), Min.	0.026	Cl. No. 8 of IS 7874 (Part 2)
9	Chromium (%), Min.	0.004	S. No. 5 of FSSAI 09.005:2024 or ISO 20649:2015
10	Cobalt (%), Min.	0.016	Cl. No. 11 of IS 7874 (Part 2)
11	Fluorine (%), Max.	0.06	Annex B of IS 5470:2002
12	Acid insoluble ash (%), Max.	3.0	Cl. No. 10 of IS 7874 (Part 1)
13	Lead (ppm), Max.	20.0	A-7 of IS 1767
14	Arsenic (ppm), Max.	7.0	A-6 of IS 1767
Note: The values for requirements (2) to (14) are on moisture-free basis. In case of preparing chelated mineral mixture, calcium (%) is likely to be lower than the values mentioned above.			

**Area specific mineral mixture formulations for the state of
Karnataka**

Sr. No.	Characteristic	Requirement	Method of Test (Ref to)
1.	Moisture (%), Max.	5.0	Annex-A of IS 5470:2002
2.	Calcium (%), Min.	26.50	IS 15121 or IS 13433 (Part 1) or IS 13574
3.	Phosphorus (%), Min.	9.0	IS 14828
4.	Magnesium (%), Min.	1.50	IS 15121 or IS 13574
5.	Copper (%), Min.	0.30	IS 15121
6.	Zinc (%), Min.	1.62	IS 15121
7.	Iodine (%), Min.	0.026	Cl. No. 8 of IS 7874 (Part 2)
8.	Chromium (%), Min.	0.004	S. No. 5 of FSSAI 09.005:2024 or ISO 20649:2015
9.	Fluorine (%), Max.	0.05	Annex B of IS 5470:2002
10.	Acid insoluble ash (%), Max.	3.0	Cl. No. 10 of IS 7874 (Part 1)
11.	Lead (ppm), Max.	20.0	A-7 of IS 1767
12.	Arsenic (ppm), Max.	7.0	A-6 of IS 1767

Note: The values for requirements (2) to (12) are on moisture-free basis. In case of preparing chelated mineral mixture, Calcium (%) is likely to be lower than the values mentioned above.

**Area specific mineral mixture formulations for the state of
Kerala**

Sr. No.	Characteristic	Requirement	Method of Test (Ref to)
1.	Moisture (%), Max.	5.0	Annex-A of IS 5470:2002
2.	Calcium (%), Min.	22.0	IS 15121 or IS 13433 (Part 1) or IS 13574
3.	Phosphorus (%), Min.	12.50	IS 14828
4.	Sulphur (%)	3.5–4.5	Annex B of IS 1664:2002
5.	Copper (%), Min.	0.15	IS 15121
6.	Zinc (%), Min.	1.20	IS 15121
7.	Iodine (%), Min.	0.026	Cl. No. 8 of IS 7874 (Part 2)
8.	Chromium (%), Min.	0.004	S. No. 5 of FSSAI 09.005:2024 or ISO 20649:2015
9.	Cobalt (%), Min.	0.012	Cl. No. 11 of IS 7874 (Part 2)
10.	Fluorine (%), Max.	0.075	Annex B of IS 5470:2002
11.	Acid insoluble ash (%), Max.	3.0	Cl. No. 10 of IS 7874 (Part 1)
12.	Lead (ppm), Max.	20.0	A-7 of IS 1767
13.	Arsenic (ppm), Max.	7.0	A-6 of IS 1767

Note: The values for requirements (2) to (13) are on moisture-free basis. In case of preparing chelated mineral mixture, calcium (%) is likely to be lower than the values mentioned above.

**Area specific mineral mixture formulation for the state of
Madhya Pradesh**

Sr. No.	Characteristic	Requirement	Method of Test (Ref to)
1	Moisture (%), Max.	5.0	Annex-A of IS 5470:2002
2	Calcium (%), Min.	26.50	IS 15121 or IS 13433 (Part 1) or IS 13574
3	Phosphorus (%), Min.	10.0	IS 14828
4	Copper (%), Min.	0.20	IS 15121
5	Zinc (%), Min.	1.30	IS 15121
6	Manganese (%), Min.	0.40	IS 15121
7	Iodine (%), Min.	0.026	Cl. No. 8 of IS 7874 (Part 2)
8	Chromium (%), Min.	0.004	S. No. 5 of FSSAI 09.005:2024 or ISO 20649:2015
9	Fluorine (%), Max.	0.06	Annex B of IS 5470:2002
10	Acid insoluble ash (%), Max.	3.0	Cl. No. 10 of IS 7874 (Part 1)
11	Lead (ppm), Max.	20.0	A-7 of IS 1767
12	Arsenic (ppm), Max.	7.0	A-6 of IS 1767
Note: The values for requirements (2) to (12) are on moisture-free basis. In case of preparing chelated mineral mixture, calcium (%) is likely to be lower than the values mentioned above.			

**Area specific mineral mixture formulation for the state of
Maharashtra**

Sr. No.	Characteristic	Requirement	Method of Test (Ref to)
1	Moisture (%), Max.	5.0	Annex-A of IS 5470:2002
2	Calcium (%), Min.	23.0	IS 15121 or IS 13433 (Part 1) or IS 13574
3	Phosphorus (%), Min.	11.5	IS 14828
4	Magnesium (%), Min.	4.0	IS 15121 or IS 13574
5	Copper (%), Min.	0.20	IS 15121
6	Zinc (%), Min.	1.20	IS 15121
7	Iodine (%), Min.	0.026	Cl. No. 8 of IS 7874 (Part 2)
8	Chromium (%), Min.	0.004	S. No. 5 of FSSAI 09.005:2024 or ISO 20649:2015
9	Cobalt (%), Min.	0.01	Cl. No. 11 of IS 7874 (Part 2)
10	Fluorine (%), Max.	0.065	Annex B of IS 5470:2002
11	Acid insoluble ash (%), Max.	3.0	Cl. No. 10 of IS 7874 (Part 1)
12	Lead (ppm), Max.	20.0	A-7 of IS 1767
13	Arsenic (ppm), Max.	7.0	A-6 of IS 1767
Note: The values for requirements (2) to (13) are on moisture-free basis. In case of preparing chelated mineral mixture, calcium (%) is likely to be lower than the values mentioned above.			

**Area specific mineral mixture formulation for the state of
Odisha**

Sr. No.	Characteristic	Requirement	Method of Test (Ref to)
1	Moisture (%), Max.	5.0	Annex-A of IS 5470:2002
2	Calcium (%), Min.	24.0	IS 15121 or IS 13433 (Part 1) or IS 13574
3	Phosphorus (%), Min.	11.0	IS 14828
4	Magnesium (%), Min.	1.20	IS 15121 or IS 13574
5	Copper (%), Min.	0.20	IS 15121
6	Zinc (%), Min.	1.50	IS 15121
7	Manganese (%), Min.	0.50	IS 15121
8	Iodine (%), Min.	0.026	Cl. No. 8 of IS 7874 (Part 2)
9	Chromium (%), Min.	0.004	S. No. 5 of FSSAI 09.005:2024 or ISO 20649:2015
10	Fluorine (%), Max.	0.065	Annex B of IS 5470:2002
11	Acid insoluble ash (%), Max.	3.0	Cl. No. 10 of IS 7874 (Part 1)
12	Lead (ppm), Max.	20.0	A-7 of IS 1767
13	Arsenic (ppm), Max.	7.0	A-6 of IS 1767
Note: The values for requirements (2) to (13) are on moisture-free basis. In case of preparing chelated mineral mixture, calcium (%) is likely to be lower than the values mentioned above.			

**Area specific mineral mixture formulation for the state of
Punjab**

Sr. No.	Characteristic	Requirement	Method of Test (Ref to)
1	Moisture (%), Max.	5.0	Annex-A of IS 5470:2002
2	Calcium (%), Min.	23.0	IS 15121 or IS 13433 (Part 1) or IS 13574
3	Phosphorus (%), Min.	12.5	IS 14828
4	Sulphur (%)	2.2–3.0	Annex B of IS 1664:2002
5	Copper (%), Min.	0.15	IS 15121
6	Zinc (%), Min.	1.40	IS 15121
7	Iodine (%), Min.	0.026	Cl. No. 8 of IS 7874 (Part 2)
8	Chromium (%), Min.	0.004	S. No. 5 of FSSAI 09.005:2024 or ISO 20649:2015
9	Cobalt (%), Min.	0.016	Cl. No. 11 of IS 7874 (Part 2)
10	Fluorine (%), Max.	0.075	Annex B of IS 5470:2002
11	Acid insoluble ash (%), Max.	3.0	Cl. No. 10 of IS 7874 (Part 1)
12	Lead (ppm), Max.	20.0	A-7 of IS 1767
13	Arsenic (ppm), Max.	7.0	A-6 of IS 1767
Note: The values for requirements (2) to (13) are on moisture-free basis. In case of preparing chelated mineral mixture, calcium (%) is likely to be lower than the values mentioned above.			

**Area specific mineral mixture formulation for the state of
Rajasthan**

Sr. No.	Characteristic	Requirement	Method of Test (Ref to)
1	Moisture (%), Max.	5.0	Annex-A of IS 5470:2002
2	Calcium (%), Min.	22.0	IS 15121 or IS 13433 (Part 1) or IS 13574
3	Phosphorus (%), Min.	14.0	IS 14828
4	Sulphur (%)	3.0–3.5	Annex B of IS 1664:2002
5	Copper (%), Min.	0.06	IS 15121
6	Zinc (%), Min.	0.70	IS 15121
7	Iodine (%), Min.	0.026	Cl. No. 8 of IS 7874 (Part 2)
8	Chromium (%), Min.	0.004	S. No. 5 of FSSAI 09.005:2024 or ISO 20649:2015
9	Cobalt (%), Min.	0.014	Cl. No. 11 of IS 7874 (Part 2)
10	Fluorine (%), Max.	0.08	Annex B of IS 5470:2002
11	Acid insoluble ash (%), Max.	3.0	Cl. No. 10 of IS 7874 (Part 1)
12	Lead (ppm), Max.	20.0	A-7 of IS 1767
13	Arsenic (ppm), Max.	7.0	A-6 of IS 1767
Note: The values for requirements (2) to (13) are on moisture- free basis. In case of preparing chelated mineral mixture, calcium (%) is likely to be lower than the values mentioned above.			

**Area specific mineral mixture formulation for the state of
Sikkim**

Sr. No.	Characteristic	Requirement	Method of Test (Ref to)
1	Moisture (%), Max.	5.0	Annex-A of IS 5470:2002
2	Calcium (%), Min.	27.0	IS 15121 or IS 13433 (Part 1) or IS 13574
3	Phosphorus (%), Min.	10.0	IS 14828
4	Copper (%), Min.	0.40	IS 15121
5	Zinc (%), Min.	0.50	IS 15121
6	Manganese (%), Min.	0.50	IS 15121
7	Iodine (%), Min.	0.026	Cl. No. 8 of IS 7874 (Part 2)
8	Chromium (%), Min.	0.004	S. No. 5 of FSSAI 09.005:2024 or ISO 20649:2015
9	Fluorine (%), Max.	0.06	Annex B of IS 5470:2002
10	Acid insoluble ash (%), Max.	3.0	Cl. No. 10 of IS 7874 (Part 1)
11	Lead (ppm), Max.	20.0	A-7 of IS 1767
12	Arsenic (ppm), Max.	7.0	A-6 of IS 1767
Note: The values for requirements (2) to (12) are on moisture-free basis. In case of preparing chelated mineral mixture, calcium (%) is likely to be lower than the values mentioned above.			

**Area specific mineral mixture formulations for the state of
Tamil Nadu**

Sr. No.	Characteristic	Requirement		Method of Test (Ref to)
		Area-I*	Area-II#	
1	Moisture (%), Max.	5.0	5.0	Annex-A of IS 5470:2002
2	Calcium (%), Min.	25.0	27.0	IS 15121 or IS 13433 (Part 1) or IS 13574
3	Phosphorus (%), Min.	10.0	10.0	IS 14828
4	Magnesium (%), Min.	3.0	--	IS 15121 or IS 13574
5	Copper (%), Min.	0.20	0.30	IS 15121
6	Zinc (%), Min.	1.40	1.40	IS 15121
7	Iodine (%), Min.	0.026	0.026	Cl. No. 8 of IS 7874 (Part 2)
8	Chromium (%), Min.	0.004	0.004	S. No. 5 of FSSAI 09.005:2024 or ISO 20649:2015
9	Cobalt (%), Min.	0.02	0.02	Cl. No. 11 of IS 7874 (Part 2)
10	Fluorine (%), Max.	0.06	0.06	Annex B of IS 5470:2002
11	Acid insoluble ash (%), Max.	3.0	3.0	Cl. No. 10 of IS 7874 (Part 1)
12	Lead (ppm), Max.	20.0	20.0	A-7 of IS 1767
13	Arsenic (ppm), Max.	7.0	7.0	A-6 of IS 1767

Note: The values for requirements (2) to (13) are on moisture-free basis.
In case of preparing chelated mineral mixture, calcium (%) is likely to be lower than the values mentioned above.

*Coimbatore, Chennai, Kancheepuram, Kanyakumari, Madurai, Nagapattinam, Sivaganga, Thiruvallur, Virudhunagar, Thoothukudi, Trichy, Thiruvarur, Thiruvannamalai, Pudukkottai, Ramnad (Ramanathapuram) & Thanjavur districts.

Dindugal, Dharmapuri, Erode, Namakkal, Salem, Thirunelveli, Villupuram, Vellore, Tirpur, Ariyalur, Cuddalore, Nilgiris, Karur, Krishnagiri, Perambalur & Theni districts.

**Area specific mineral mixture formulation for the state of
Tripura**

Sr. No.	Characteristic	Requirement	Method of Test (Ref to)
1	Moisture (%), Max.	5.0	Annex-A of IS 5470:2002
2	Calcium (%), Min.	25.0	IS 15121 or IS 13433 (Part 1) or IS 13574
3	Phosphorus (%), Min.	12.0	IS 14828
4	Copper (%), Min.	0.30	IS 15121
5	Zinc (%), Min.	1.00	IS 15121
6	Manganese (%), Min.	0.40	IS 15121
7	Iodine (%), Min.	0.026	Cl. No. 8 of IS 7874 (Part 2)
8	Chromium (%), Min.	0.004	S. No. 5 of FSSAI 09.005:2024 or ISO 20649:2015
9	Fluorine (%), Max.	0.07	Annex B of IS 5470:2002
10	Acid insoluble ash (%), Max.	3.0	Cl. No. 10 of IS 7874 (Part 1)
11	Lead (ppm), Max.	20.0	A-7 of IS 1767
12	Arsenic (ppm), Max.	7.0	A-6 of IS 1767
Note: The values for requirements (2) to (12) are on moisture-free basis. In case of preparing chelated mineral mixture, calcium (%) is likely to be lower than the values mentioned above.			

**Area specific mineral mixture formulations for the state of
Uttar Pradesh**

Sr. No.	Characteristic	Requirement		Method of Test (Ref to)
		Western UP*	Rest of UP#	
1	Moisture (%), Max.	5.0	5.0	Annex-A of IS 5470:2002
2	Calcium (%), Min.	25.50	27.50	IS 15121 or IS 13433 (Part 1) or IS 13574
3	Phosphorus (%), Min.	12.0	9.0	IS 14828
4	Copper (%), Min.	0.20	0.20	IS 15121
5	Zinc (%), Min.	1.40	1.20	IS 15121
6	Manganese (%), Min.	0.10	0.30	IS 15121
7	Iodine (%), Min.	0.026	0.026	Cl. No. 8 of IS 7874 (Part 2)
8	Chromium (%), Min.	0.004	0.004	S. No. 5 of FSSAI 09.005:2024 or ISO 20649:2015
9	Cobalt (%), Min.	0.01	0.01	Cl. No. 11 of IS 7874 (Part 2)
10	Fluorine (%), Max.	0.07	0.05	Annex B of IS 5470:2002
11	Acid insoluble ash (%), Max.	3.0	3.0	Cl. No. 10 of IS 7874 (Part 1)
12	Lead (ppm), Max.	20.0	20.0	A-7 of IS 1767
13	Arsenic (ppm), Max.	7.0	7.0	A-6 of IS 1767

Note: The values for requirements (2) to (13) are on moisture-free basis. In case of preparing chelated mineral mixture, calcium (%) is likely to be lower than the values mentioned above.

*Mathura, Hathras, Etah, Aligarh, Agra, Firozabad, Mainpuri, Farrukhabad, Etawah, Kanauj, Auraiya, Moradabad, Bijnor, Jyotiba Phule Nagar, Budaun, Meerut, Muzaffarnagar, Saharanpur, Baghpat, Ghaziabad and Bulandshahr districts.

#Rampur, Bareilly, Pilibhit, Lakhimpur, Hardoi, Sitapur, Bahraich, Kanpur (Rural), Kanpur (Urban), Unnao, Lucknow, Barabanki, Gonda, Shravasti, Balrampur, Jalaun, Jhansi, Hamirpur, Fatehpur, Rae Bareilly, Sultanpur, Faizabad, Basti, Sidharthnagar, Mahoba, Chitrakut, Kaushambi, Pratapgarh, Ambedkar Nagar, Sant Kabir Nagar, Maharajganj, Allahabad, Jaunpur, Azamgarh, Gorakhpur, Deoria, Kushinagar, Sant Ravidas Nagar, Mirzapur, Varanasi, Ghazipur, Mau, Chanduali, Sonbhadra, Lalitpur, Saharanpur, Gautam Budh Nagar, Banda & Ballia districts.

**Area specific mineral mixture formulations for the state of
Uttarakhand**

Sr. No.	Characteristic	Requirement		Method of Test (Ref to)
		Hilly Zone*	Plain Zone**	
1	Moisture (%), Max.	5.0	5.0	Annex-A of IS 5470:2002
2	Calcium (%), Min.	27.0	24.0	IS 15121 or IS 13433 (Part 1) or IS 13574
3	Phosphorus (%), Min.	10.0	14.0	IS 14828
4	Copper (%), Min.	0.15	0.25	IS 15121
5	Zinc (%), Min.	1.20	1.40	IS 15121
6	Manganese (%), Min.	0.30	--	IS 15121
7	Iodine (%), Min.	0.026	0.026	Cl. No. 8 of IS 7874 (Part 2)
8	Chromium (%), Min.	0.004	0.004	S. No. 5 of FSSAI 09.005:2024 or ISO 20649:2015
9	Fluorine (%), Max.	0.06	0.08	Annex B of IS 5470:2002
10	Acid insoluble ash (%), Max.	3.0	3.0	Cl. No. 10 of IS 7874 (Part 1)
11	Lead (ppm), Max.	20.0	20.0	A-7 of IS 1767
12	Arsenic (ppm), Max.	7.0	7.0	A-6 of IS 1767

Note: The values for requirements (2) to (12) are on moisture-free basis. In case of preparing chelated mineral mixture, calcium (%) is likely to be lower than the values mentioned above.

*Pithorgarh, Uttarakashi, Chamoli, Bageshwar, Almora, Champawat, Nainital, Pauri, Tehri Garhwal & Rudra Prayag districts.

**Udamsinghnagar & Haridwar districts.

**Area specific mineral mixture formulation for the state of
West Bengal**

Sr. No.	Characteristic	Requirement	Method of Test (Ref to)
1	Moisture (%), Max.	5.0	Annex-A of IS 5470:2002
2	Calcium (%), Min.	25.50	IS 15121 or IS 13433 (Part 1) or IS 13574
3	Phosphorus (%), Min.	11.0	IS 14828
4	Copper (%), Min.	0.20	IS 15121
5	Zinc (%), Min.	1.40	IS 15121
6	Manganese (%), Min.	0.50	IS 15121
7	Iodine (%), Min.	0.026	Cl. No. 8 of IS 7874 (Part 2)
8	Chromium (%), Min.	0.004	S.No. 5 of FSSAI 09.005:2024 or ISO 20649:2015
9	Fluorine (%), Max.	0.065	Annex B of IS 5470:2002
10	Acid insoluble ash (%), Max.	3.0	Cl. No. 10 of IS 7874 (Part 1)
11	Lead (ppm), Max.	20.0	A-7 of IS 1767
12	Arsenic (ppm), Max.	7.0	A-6 of IS 1767
Note: The values for requirements (2) to (12) are on moisture- free basis. In case of preparing chelated mineral mixture, calcium (%) is likely to be lower than the values mentioned above.			

Mineral mixture type II (as per BIS 1664:2002 specifications)

(For the states of Jammu & Kashmir, Goa, Meghalaya, Manipur, Nagaland, Mizoram & Union Territories: Puducherry, Ladakh, Andaman & Nicobar Islands, Lakshadweep, Diu & Daman, Dadra & Nagar Haveli)

Sr. No.	Characteristic	Requirement	Method of Test (Ref to)
1	Moisture (%), Max.	5.0	Annex-A of IS 5470:2002
2	Calcium (%), Min.	20.0	IS 15121 or IS 13433 (Part 1) or IS 13574
3	Phosphorus (%), Min.	12.0	IS 14828
4	Magnesium (%), Min.	5.0	IS 15121 or IS 13574
5	Sulphur (%)	1.8–3.0	Annex B of IS 1664:2002
6	Copper (%), Min.	0.10	IS 15121
7	Zinc (%), Min.	0.80	IS 15121
8	Manganese (%), Min.	0.12	IS 15121
9	Iron (%), Min.	0.40	IS 15121
10	Iodine (%), Min.	0.026	Cl. No. 8 of IS 7874 (Part 2)
11	Cobalt (%), Min.	0.012	Cl. No. 11 of IS 7874 (Part 2)
12	Fluorine (%), Max.	0.07	Annex B of IS 5470:2002
13	Acid insoluble ash (%), Max.	3.0	Cl. No. 10 of IS 7874 (Part 1)
14	Lead (ppm), Max.	20.0	A-7 of IS 1767
15	Arsenic (ppm), Max.	7.0	A-6 of IS 1767
16	Total ash (%)	78-85	Annex C of IS 5470:2002
17	Presence of proteinous/ organic impurities	Shall pass the test	Annex D of IS 5470:2002

Note: The values for requirements (2) to (17) are on moisture-free basis.