

## **CATTLE FEED (REGULATION OF MANUFACTURE AND SALE) ORDER, 2009**

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, namely;

### **1. Short title, extent and commencement:**

- (1) This Order may be called the Cattle Feed (Regulation of Manufacture and Sale) Order, 2009.
- (2) It extends to the whole of India.
- (3) It shall come into force on the date of its publication in the Official Gazette.

### **2. Definitions:** In this Order unless the context otherwise requires:

- (a) "Authorized Agent" means any person who deals in cattle feed and/or mineral mixture under an agreement or contract with the manufacturers.
- (b) "Cattle feed" means any ground, pelleted, crumbled or mixture feed, balanced for various nutrients as per the laid down specification, intended for the feeding of animals and includes:
  - (i) Calf starter meal from the age of approximately eight weeks and up to approximately twenty six weeks and calf growth meal from the age of approximately twenty six weeks and up to approximately one hundred eight weeks;
  - (ii) Compounded cattle feed for cattle and buffaloes from the age of approximately above one hundred eight weeks;
  - (iii) Proprietary feeds developed through R&D efforts for specific purpose of increasing productivity and reducing cost of milk production, which include bypass protein feed/supplement, bypass fat, urea molasses mineral block, urea molasses liquid feed, mineral salt lick etc.
  - (vi) Straw based feed, manufactured by using byproducts of food crops along with other feed ingredients;
- (c) "Dealer" means any person who carries on the business of buying and selling cattle feed (a minimum of 5 MT per month) and/or mineral mixture (a minimum of 500 kg per month) whether or not in conjunction with other business;
- (d) "Expert Committee" means the Committee of Experts constituted under para 13.
- (e) "Form" means a form appended to this Order
- (f) "Laboratory" means any laboratory authorized by the Registering Authority from time to time for the purpose of analyzing the samples of cattle feed and mineral mixture collected under the Order;
- (g) "Manufacturer" means any person who engaged in the manufacture of cattle feed and/or mineral mixture;
- (h) "Mineral mixture" means a blend of essential macro and micro-mineral elements in powder form, used for supplementing the ration;

- (i) "Registration certificate" means a registration certificate issued under this Order;
- (j) "Registering Authority" means an officer appointed by the Central Government to exercise powers and perform the duties of the Registering Authority within their respective jurisdiction under this Order;

**3. Registration for manufacture and sale of cattle feed and mineral mixture:**

- (1) No person shall carry on business of manufacture, sale or distribution in any manner, cattle feed and mineral mixture except under and in accordance with the terms and conditions of a registration certificate issued by the Registering Authority.

Provided further, that a person who, at the commencement of this Order, was carrying on business of manufacture, sale or distribution of cattle feed and mineral mixture, shall obtain a registration within a period of three months from the date of commencement of this Order.

- (2) A separate registration shall be necessary for each place of business.

**4. Appointment of Registering Authority:**

The Secretary (ADF), Department of Animal Husbandry, Dairying and Fisheries, Government of India may appoint or designate as many officers of the Central or State Government or a statutory body set up by an Act of Parliament or State Legislature, as it may deem fit, as Registering Authority and specify their respective jurisdiction.

**5. Powers of Registering Authority:**

- (1) The Registering Authority or any officer authorized by it in this behalf, may with a view to securing compliance with this Order or to satisfy himself that any such provision has been complied with ;

- (i) collect samples of cattle feed and mineral mixture or any ingredients used for production of cattle feed kept for sale. Such cattle feed and mineral mixture/any ingredient will be divided in three parts. Each part shall be marked (coded), sealed signed and fastened in air tight containers/bags in a manner prescribed so that the nature and character of the content may not change, mentioning the date and time of sampling. Out of the three parts, one shall be forwarded for analysis to the laboratory authorized in that behalf by the Registering Authority, one shall be delivered to the person from whom the sample was taken and one shall be kept by the Registration Authority or any officer authorized for use in case a re-test of the sample is required. The Registering Authority or any officer authorized by it shall prepare in such form as may be prescribed, a declaration in triplicate containing full particulars relating to the samples collected for quality monitoring or samples seized by him and such declaration shall be signed or marked by both the officer authorized and the person from whose possession, custody or control the cattle feed and mineral mixture has been collected/seized, and a copy thereof shall be given to such person.

- (ii) require the owner, occupier or any other person in charge of any place of business in which he has reason to believe that any contravention of the provisions of this Order

or of the conditions of any registration certificate issued there under has been, is being or is about to be committed, to produce any book, accounts or other documents showing transactions relating to such contraventions and take or cause to be taken extract or copies of such book, accounts or other documents produced before him;

- (iii) enter, inspect and search any place of business or premises in which he has reason to believe that any contravention of the provisions of this Order or of the conditions of registration certificate issued thereunder has been, is being, or is about to be committed;
  - (iv) search, seize and remove stocks of cattle feed and mineral mixture manufactured for sale otherwise than in accordance with the provisions of this Order or of the conditions of registration certificate issued thereunder and thereupon take or authorize the taking of all measures necessary for securing the production of stocks of cattle feed or mineral mixture so seized in a Court.
- (2) When a sample is taken from the stock in the possession of an authorized agent, the authorized agent shall be bound to give the name and such other particulars of the person on whose behalf such stock is held by him, as the Registering Authority or any officer authorized may require.
  - (3) Every holder of a registration certificate shall be bound by any direction or order issued by the Registering Authority in pursuance of any of the provisions of this Order and shall comply with such direction or order and any failure on his part to comply with such direction or order shall be deemed to be a contravention of this Order.
  - (4) The provisions of the Code of Criminal Procedure, 1973 (Act 2 of 1974) relating to search and seizure shall, so far as may be, apply to searches and seizures under this clause.

**6. Issue of registration certificate:**

- (1) Every application for registration or renewal thereof shall be made to the Registering Authority in Form "A".
- (2) Every registration certificate issued or renewed under this Order shall be in Form "B" and shall be subject to the conditions specified therein.
- (3) On receipt of an application under sub-clause (1), the Registering Authority, after such enquiry and inspection as it deems fit and if satisfied, grant or renew a registration subject to the conditions specified therein.
- (4) The Registering Authority may after giving the applicant an opportunity of being heard and for reasons to be recorded in writing refuse to grant or renew registration.
- (5) Every registration certificate issued under this clause shall be valid for a period of five years and may be renewed for a period of five years at a time.
- (6) Every application for renewal of registration shall be made three months before expiry of the period specified in the registration certificate.

**7. Fee for issue or renewal of registration:**

The non-refundable fee for issue or renewal of a registration shall be rupees one thousand, or such fees as may be revised by the Registering Authority from time to time.

**8. Duplicate registration certificate:**

If a registration certificate issued under this Order is defaced, lost or destroyed, the Registering Authority may if satisfied, grant a duplicate registration certificate to the applicant on payment of a fee of rupees five hundred.

**9. Contravention of conditions of registration certificate:**

No holder of registration certificate issued under this Order or his agent or servant or any other person acting on his behalf shall contravene any of the terms and conditions of registration and if any such holder or his agent or servant or any other person acting on his behalf contravenes any of the said terms and conditions, then without prejudice to any other action that may be taken against him, his registration may be cancelled or suspended by order in writing by the Registering Authority;

Provided, that no order shall be made under this clause unless the holder of registration has been given a reasonable opportunity of being heard.

**10. Appeal:**

- (1) Any person aggrieved by an order of the Registering Authority refusing to grant or renew a registration, or canceling or suspending a registration under the provisions of this Order, may appeal to the Secretary (ADF), Department of Animal Husbandry, Dairying and Fisheries, Government of India, or his nominee, within thirty days from the date of receipt of such order by him.
- (2) No order shall be made under this clause unless an aggrieved person has been given a reasonable opportunity of being heard.
- (3) Pending the disposal of an appeal, the Secretary (ADF or his nominee) may direct that the order refusing to renew a registration or the order canceling or suspending a registration shall not take effect until the appeal is disposed of.

**11. Maintenance of records:**

The holder of registration certificate shall maintain such record relating to his business in such form as may be specified by the Registering Authority in this behalf.

**12. Submission of returns:**

Every holder of registration certificate shall submit an yearly return in duplicate in respect of each class of cattle feed and mineral mixture manufactured or processed by him, in Form "C".

**13. Specifications regarding manufacturing, sale or distribution of cattle feed and mineral mixture:**

Every holder of registration certificate, who manufactures, sells or distributes cattle feed and mineral mixture shall conform to the specifications, specified from time to time by the committee of experts on Cattle feed and Mineral Mixture constituted by the Secretary (ADF),

Department of Animal Husbandry, Dairying and Fisheries, Government of India. On the advice of committee of experts, Secretary (ADF) may issue necessary amendments from time to time.

**14. Conditions for manufacturing cattle feed and mineral mixture:**

A holder of registration certificate shall not use:

- (i) ingredients, such as, rice husk, mahua cake, castor husk/meal, salseed meal, jatropha cake/meal, saw dust, animal origin feed ingredients and such other ingredients, as may be specified by the Expert Committee from time to time, for manufacture of cattle feed;
- (ii) ingredients of animal origin and mineral salts with low bio-availability, as may be specified by the Expert Committee from time to time, for manufacture of mineral mixture;
- (iii) urea or any other non-protein nitrogen compounds including ammonium salts for manufacture of feeds for young stock. However, feed for adult cattle may contain urea, calcite powder and common salt, not exceeding one per cent each.

**15. Packing, marking and labeling:**

(1) Every holder of a registration certificate shall comply with the following requirements:

- (i) Cattle feed shall be packed in clean and sound plain jute or HDPE or cloth or paper bags, in such quantities as may be specified by the Registering Authority. The mouth of each bag shall be machine-stitched;
  - (ii) Mineral mixture shall be packed in moisture-proof sound and clean bags, free from causal agents of infectious diseases and parasites in such quantities as may be specified by the Registering Authority;
  - (iii) Every bag in which cattle feed or mineral mixture is packed bear the registration number, name and business address and trade name of the manufacturer, marks approved by the Registering Authority, net weight in kg at the time of packing and the maximum retail price;
  - (iv) Every bag in which cattle feed or mineral mixture is packed, shall indicate the type/category;
- (2) Each bag in which cattle feed is packed shall contain a printed leaflet, format of which shall be approved by the Registering Authority, indicating batch number, date of manufacture, address of manufacturer, registration number, the nutrient composition of the feed, ingredients used in manufacturing cattle feed, actual level of mineral mixture, vitamins, feed supplements added with their proportions and such other particulars as may be stipulated by the Expert Committee. The leaflet shall also contain declaration about the non-use of prohibited ingredients in cattle feed, as stipulated by the Expert Committee.
- (3) Each bag in which mineral mixture is packed shall contain a printed leaflet, format of which shall be approved by the Registering Authority, indicating batch number, date of manufacture, address of manufacturer, registration number, per cent of various mineral elements, mineral

salts used and such other particulars as may be stipulated by the Expert Committee. The leaflet shall also contain declaration about the non-use of certain mineral salts and ingredients of animal origin, as stipulated by the Expert Committee.

- (4) The language of labeling on bags and on the printed leaflets shall be in English and also in vernacular language of the respective States;
- (5) The labels or marks shall not contain any statement, claim, design or device which is false or misleading in any particulars concerning the cattle feed and mineral mixture contained in a package or the quantity or the value of such feed or the place of its origin;
- (6) No person shall manufacture Proprietary cattle feed or mineral mixture without the prior written approval of the Registering Authority.

**15. Penalty:**

Every person who contravenes or is deemed to have contravened any of the provisions of this Order, or any of the terms and conditions of the registration certificate or fails to carry out any directions or order or request made or instruction given thereunder, shall be punishable under Section 7 of the Essential Commodities Act, 1955 (10 of 1955).

**16. Repeal and Savings:**

- (1) The provisions of Order and instructions issued thereunder, shall supersede any order made under Sec.3 of the Essential Commodities Act, 1955 (10 of 1955) in so far as it is inconsistent with the provisions of this Order and relates to cattle feed and mineral mixtures.
- (2) Notwithstanding such supersession, anything done or any action taken or initiated under those orders shall be deemed to have been done, taken or initiated under the corresponding provisions of this Order.

FORM "A"  
(See clause 6 (1))

**Application for registration under the Cattle Feed (Regulation of Manufacture and Sale) Order, 2009**

Applicant's Name:	Applicant's Full Address, Telephone Nos. Fax, email:
Name of the Managing Director, Directors, Proprietors, Partners, Owners etc:	Whether the Applicant is: <ul style="list-style-type: none"> <li>• Manufacturer <input type="checkbox"/></li> <li>• Dealer <input type="checkbox"/></li> <li>• Storage Agent <input type="checkbox"/></li> <li>• Distributor <input type="checkbox"/></li> </ul> (Tick mark the appropriate)

I/we hereby undertake to comply with all the provisions of the Cattle Feed (Regulation of Manufacture and Sale) Order 2009.

Place: \_\_\_\_\_

Date: \_\_\_\_\_

\_\_\_\_\_  
(Signature of the Applicant)

FORM "B"

(See Clause 6(2))

**Registration under the Cattle Feed  
(Regulation of Manufacture and Sale) Order, 2009**

<b>This registration shall be displayed in a prominent and conspicuous place of business premises</b>	
Name and Address of the holder of registration certificate:	Registration Number:
Address of the Place of Business/Manufacturing facility:	Registration valid from _____ to _____ (Five years)
<p>Registration is granted subject to the provisions of the Cattle Feed (Regulation of Manufacture and Sale) Order, 2009:</p> <p>The holder of registration certificate shall comply with all the directions and conform to the specifications issued by the Registering Authority from time to time.</p>	

Place: \_\_\_\_\_

\_\_\_\_\_ (Registering Authority)

Date: \_\_\_\_\_

FORM "C"  
(See Clause 12)

<b>Yearly Return</b>				
Name of the holder of registration number:		Installed capacity (MT/per shift):		
		Cattle Feed : Mineral Mixture : Others :		
Name of Cattle Feed Plant/Unit Establishment/Premises (with address):		If installed capacity enhanced: Yes/No. If yes, _____MT/shift.		
		Registration Number & Date and place of issue :		
Period of the return: April to March				
Stock position (MT)				
Particular	Opening stock	Production/Purc hases	Sold/ distribution	Closing stock
Cattle feed				
Calf starter				
Straw based feed				
Mineral mixture				
Others				

I hereby confirm that the above-mentioned information is factually correct.

Place: \_\_\_\_\_

Date: \_\_\_\_\_

\_\_\_\_\_ (Signature of the registration certificate holder)

**FORMAT OF PRINTED LEAFLET**  
**(See Clause No.15 (2) - Packing, Marking & Labeling)**

(i) **Young stock**

Type of Feed:	Date of Manufacture:
Name and Address of Manufacturer:	Registration Number:
Batch No.	Net Weight:
<b>Nutrient composition</b>	
Moisture, percent by mass, Max.	
Crude protein (N x 6.25), percent by mass, Min.	
Crude fat, percent by mass, Min.	
Crude fibre, percent by mass, Max.	
Acid insoluble ash, percent by mass, Max.	
List of ingredients used in manufacturing this feed :	
<ol style="list-style-type: none"> <li>1.</li> <li>2.</li> <li>3.</li> <li>4.</li> <li>5.</li> <li>6.</li> <li>7.</li> <li>8.</li> <li>9.</li> <li>10.</li> </ol>	
<ol style="list-style-type: none"> <li>1. This feed does not contain urea or any other non-protein nitrogen compounds including ammonium salts.</li> <li>2. This feed does not contain ingredients, such as, rice husk, mahua cake, castor husk/meal, salseed meal, jatropa cake/meal, saw dust and animal origin feed ingredients.</li> </ol>	



**FORMAT OF PRINTED LEAFLET**  
(See Clause No.15 (2) - Packing, Marking & Labeling)

**(ii) Cattle feed**

Type of Feed:	Date of Manufacture:
Name and Address of Manufacturer:	Registration Number:
Batch No.	Net Weight:
<b>Nutrient composition</b>	
Moisture, percent by mass, Max.	
Crude protein (N x 6.25), percent by mass, Min.	
Crude fat, percent by mass, Min.	
Crude fibre, percent by mass, Max.	
Acid insoluble ash, percent by mass, Max.	
Salt (as NaCl), per cent by mass, Max.	
Calcium (as Ca) per cent by mass, Min.	
Total phosphorus, per cent by mass, Min.	
Available phosphorus, per cent by mass, Min.	
Vitamin A, I.U./kg, Min.	
Vitamin D <sub>3</sub> , I.U./kg, Min.	
Vitamin E, I.U./kg, Min.	
Aflatoxin B <sub>1</sub> (ppb), Max.	
This feed contains : <ul style="list-style-type: none"> <li>• Urea: _____</li> <li>• Mineral mixture: _____</li> <li>• Common salt: _____</li> <li>• Calcite powder: _____</li> </ul>	List of ingredients used in manufacturing this feed: 1. 2. 3. 4. 5. 6.
1. This feed does not contain ingredients, such as, rice husk, mahua cake, castor husk/meal, salseed meal, jatropa cake/meal, saw dust and animal origin feed ingredients.	

**FORMAT OF PRINTED LEAFLET**  
(See Clause No.15 (2) - Packing, Marking & Labeling)

**(iii) Straw based feed**

Name and Address of Manufacturer:	Registration Number:
Batch No. & Date of Manufacture	Net Weight:
<b>Nutrient composition</b>	
Moisture, percent by mass, Max.	
Crude protein (N x 6.25), percent by mass, Min.	
Crude fibre, percent by mass, Max.	
Acid insoluble ash, percent by mass, Max.	
Salt (as NaCl), per cent by mass, Max.	
Urea, per cent by mass, Max.	
Calcite powder, per cent by mass, Max.	
Vitamin A, I.U./kg, Min.	
This feed contains : <ul style="list-style-type: none"> <li>• Urea: _____</li> <li>• Mineral mixture: _____</li> </ul>	This feed contains following ingredients : 1. 2.

<ul style="list-style-type: none"> <li>• Common salt: _____</li> <li>• Calcite Powder: _____</li> </ul>	3. 4. 5. 6. 7.
This feed does not contain ingredients, such as, rice husk, mahua cake, castor husk/meal, salseed meal, jatropa cake/meal, saw dust and animal origin feed ingredients.	

**FORMAT OF PRINTED LEAFLET**  
(See Clause No.15 (3) - Packing, Marking & Labeling)

**Mineral Mixture :**

Type of mineral mixture:	Date of Manufacture:
Name and Address of Manufacturer:	Registration Number:
Batch No.	Net Weight:
<b>Mineral element composition</b>	
Moisture (%), Max.	
Calcium (%), Min.	
Phosphorus (%), Min.	
Magnesium (%), Min.	
Sulphur (%)	
Copper (%), Min.	
Zinc (%), Min.	
Manganese (%), Min.	
Iron (%), Min.	
Iodine (%), Min.	
Cobalt (%), Min.	
Fluorine (%), Max.	
Acid insoluble ash (%), Max.	
Lead (ppm), Max.	
Arsenic (ppm), Max.	
Total ash (%)	
This mineral mixture contains the following mineral salts : 1. 2. 3. 4. 5. 6. 7. 8.	
1. This mineral mixture does not contain ingredients of animal origin such as meat & bone meal, bone meal, calcined bone meal, di-calcium phosphate of animal origin, etc. 2. This mineral mixture does not contain marble powder, dolomite powder, ferric oxide, cupric oxide, manganese dioxide, unprocessed rock phosphate, etc.,	

**SPECIFICATIONS  
(See Clause No.13)**

**Calf starter and calf growth meal for young stock**

Sl.No.	Characteristic	Requirement		Method of Test (Ref to)
		Calf starter meal	Calf growth meal	
1.	Moisture, percent by mass, Max.	10	10	Cl. No.4 of IS 7874, Part 1:1975
2.	Crude protein* (N x 6.25), percent by mass, Min.	23	22	Cl. No. 5 of IS 7874, Part 1:1975
3.	Crude fat, percent by mass, Min.	4.0	3.0	Cl. No. 7 of IS 7874, Part 1:1975
4.	Crude fibre, percent by mass, Max.	7	10	Cl. No.8 of IS 7874, Part 1:1975
5.	Acid insoluble ash, percent by mass, Max.	2.5	3.5	Cl. No.10 of IS 7874, Part 1:1975

Note 1: The values for requirements (2) to (5) are on moisture-free basis.  
Note 2: \*While analyzing for crude protein, it should be ensured that the nitrogen has not been derived from urea or other ammonium salts.

**SPECIFICATIONS  
(See Clause No.13)**

**Cattle Feed**

Sl.No.	Characteristic	Requirement				Method of Test (Ref to Cl. No. of IS 7874, Part 1:1975)
		*Type-1	*Type-2	**Type-3	***Type-4	
1.	Moisture, percent by mass, Max.	11	11	11	11	4
2.	Crude protein (N x 6.25), percent by mass, Min.	22	20	25	18	5
3.	Crude fat, percent by mass, Min.	4.0	2.5	4.5	2.0	7
4.	Crude fibre, percent by mass, Max.	10	12	8	15	8
5.	Acid insoluble ash, percent by mass, Max.	3.0	4.0	3.0	5.0	10
6.	Salt (as NaCl), per cent by mass, Max.	1.0	1.0	1.0	1.0	IS 7874 (Part 2) 1975, Cl.No. 4
7.	Calcium (as Ca) per cent by mass, Min.	0.8	0.8	1.0	0.8	IS 13433 (Part 1/Part 2:1992
8.	Total phosphorus, per cent by mass, Min.	0.5	0.5	0.8	0.5	IS 7874 (Part 2): 1975 Cl.No.6 or <sup>1</sup> IS 14828: 2000
9.	Available phosphorus, per cent by mass, Min.	0.25	0.25	0.25	0.20	IS 1374:1992 ANNEX C
10.	Urea, per cent by mass, Max.	1.0	1.0	1.0	1.0	IS:7874 (Part 1) General Methods
11.	Calcite powder, per cent by mass, Max.	1.0	1.0	1.0	1.0	IS 13433 (Part 1/Part 2:1992
12.	Vitamin A, I.U./kg, Min.	7000	7000	10,000	7000	ISO 14565: 2000
13.	Vitamin D <sub>3</sub> , I.U./kg, Min.	1200	1200	1500	1200	Annex E of IS 2052:1979
14.	Vitamin E, I.U./kg, Min.	30	30	50	30	Annex F of IS 2052:1979
15.	Aflatoxin B <sub>1</sub> (ppb), Max.	50	50	50	50	Annex G <sup>2</sup> of IS 2052:1979 or IS 13427: 1992

\*As per BIS specifications 2009; \*\* Feed proposed for very high yielding animals

\*\*\* Feed proposed for low yielding animals.

Note 1: The values for requirements (2) to (15) are on moisture-free basis.

Note 2: For routine analysis, the characteristics mentioned above may be tested by near infra-red analyzer

(NIR). However, in case of dispute, the method given above shall be the referee's method.  
 Note 3: <sup>1</sup>IS14828:2002 shall be the referee's method, in case of dispute.  
<sup>2</sup>In case of dispute, HPLC method shall be the referee's method.

**SPECIFICATIONS  
 (See Clause No.13)**

**Straw based feed**

Sl.No.	Characteristic	Requirement	Method of Test (Ref to)
1.	Moisture, percent by mass, Max.	12	Cl. No.4 of IS 7874, Part 1:1975
2.	Crude protein (N x 6.25), percent by mass, Min.	10	Cl. No. 5 of IS 7874, Part 1:1975
3.	Crude fibre, percent by mass, Max.	28	Cl. No.8 of IS 7874, Part 1:1975
4.	Acid insoluble ash, percent by mass, Max.	9	Cl. No.10 of IS 7874, Part 1:1975
5.	Salt (as NaCl), per cent by mass, Max.	0.5	IS 7874 (Part 2) 1975, Cl.No. 4
6.	Urea, per cent by mass, Max.	1.0	IS:7874 (Part 1) General Methods
7.	Calcite powder, per cent by mass, Max.	0.5	IS:13433 (Part 1/Part 2: 1992)
8.	Vitamin A, I.U./kg, Min.	2,000	ISO 14565: 2000

Note: The values for requirements (2) to (8) are on moisture-free basis.

**SPECIFICATIONS  
 (See Clause No.13)**

**Mineral mixture (without common salt, as per BIS specifications)\***

Sl.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 (Part1)
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 (16) are on moisture-free basis.  
 \*Area specific mineral mixture formulations based on mineral mapping programme will be notified from time to time.