

कैल्साइट पाउडर (CaCO₃), पशु खाद्य
ग्रेड — विशिष्टि

Calcite Powder (CaCO₃), Animal
Feed Grade — Specification

ICS 65.120

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Price Group 5

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Animal Feeds and Nutrition Sectional Committee had been approved by the Food and Agriculture Division Council.

Calcite powder is a carbonate mineral and has a definite crystalline structure having most stable polymorph of calcium carbonate (CaCO_3). It is a common constituent of sedimentary rocks, limestone with very low silica and very little or no fluorine. Calcite powder is being used by the cattle and poultry feed industry as a calcium supplement. Calcium is an essential dietary component for livestock influencing production, reproduction and feed conversion efficiency.

The formulation of this standard has been undertaken to specify requirements for calcite powder. It is expected that this standard will assist the feed industry in proper utilization of this material and improve nutritional standards of livestock.

The composition of the Committee responsible for the formulation of this standard is given in [Annex B](#).

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Indian Standard***CALCITE POWDER (CaCO₃), ANIMAL FEED GRADE —
SPECIFICATION****1 SCOPE**

This standard prescribes the requirements and the methods of sampling and test for calcite powder (CaCO₃), animal feed grade.

2 REFERENCES

The standards listed in [Annex A](#) contain provisions, which through references in this text constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent edition of these standards.

3 REQUIREMENTS

3.1 The particle size of the material shall be such that, when sieved, not more than 10 percent of the material is retained on 212 microns IS sieve [*see* IS 460 (Part 1)].

3.2 The material shall be in the form of fine, white microcrystalline powder without any taste or odour, and free from any adulterants.

3.3 The manufacturer shall declare the source of the material. The material shall not be of animal origin when intended for ruminant feeding.

3.4 The material shall also conform to the requirements prescribed in [Table 1](#).

4 PACKING AND MARKING**4.1 Packing**

Unless otherwise agreed to between the purchaser and the vendor, the material shall be packed in clean, dry, moisture-proof bags, cartons, boxes or drums. All containers shall be sound and free from causal agents of infectious diseases and parasites.

4.2 Marking

4.2.1 Each container shall be legibly and indelibly

marked to give the following information:

- a) Name and source of the material;
- b) Name and address of the manufacturer;
- c) Batch or code number;
- d) Net mass, in kg;
- e) Date of packing;
- f) Best before date in month and year format; and
- g) Any other requirements as specified under the *Legal Metrology (Packaged Commodities) Rules, 2011*.

4.2.2 BIS Certification Marking

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations framed thereunder, and the products may be marked with the Standard Mark.

5 SAMPLING

Representative samples of the material for testing its conformity to this specification shall be drawn according to the method prescribed in Annex E of IS 5470.

6 TESTS

6.1 Tests shall be carried out as prescribed in col (4) of [Table 1](#).

6.2 Quality of Reagents

Unless specified otherwise, pure chemicals and distilled water (*see* IS 1070) shall be employed in tests.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the test results.

Table 1 Requirements for Calcite Powder (CaCO₃), Animal Feed Grade*(Clauses 3.4 and 6.1)*

SI No.	Characteristic	Requirement	Method of Test, Ref to
(1)	(2)	(3)	(4)
i)	Moisture, percent by mass, <i>Max</i>	3.0	Annex A of IS 5470* or 4 of IS 7874 (Part 1)
ii)	Calcium (as Ca), percent by mass, <i>Min</i>	37.0	IS 13433 (Part 1) or IS 15121* or EN 15621
iii)	Total ash, percent by mass	56 to 60	9 of IS 7874 (Part 1)
iv)	Acid insoluble ash, percent by mass, <i>Max</i>	3.0	Annex A of IS 1712 or IS 14826*
v)	Fluorine (as F), percent by mass, <i>Max</i>	0.01	Annex B of IS 5470
vi)	Magnesium, percent by mass, <i>Max</i>	1.0	IS 15121 or EN 15621
vii)	Lead (as Pb), mg/kg, <i>Max</i>	30.0	EN 17053
viii)	Arsenic (as As ₂ O ₃), mg/kg, <i>Max</i>	10.0	EN 17053

NOTES

1 The values specified for requirements at SI No. (ii) to (viii) are on moisture-free-basis.

2 In case of dispute, the test methods given above and wherever indicated by '*' shall be the referee method.

ANNEX A

(Clause 2)

LIST OF REFERRED STANDARDS

<i>IS No./Other Standards</i>	<i>Title</i>	<i>IS No./Other Standards</i>	<i>Title</i>
IS 460 (Part 1) : 2020	Test sieves — Specification: Part 1 Wire cloth test sieves (<i>fourth revision</i>)	IS 15121 : 2002/ ISO 6869 : 2000	Animal feeding stuff — Determination of the contents of calcium, copper, iron, magnesium, manganese, potassium, sodium and zinc — Method using atomic absorption spectrometry
IS 1070 : 2023	Reagent grade water — Specification (<i>fourth revision</i>)		
IS 1712 : 2022	Cottonseed oilcake as livestock feed ingredient — Specification (<i>third revision</i>)	EN 15621 : 2017	Animal feeding stuffs: Methods of sampling and analysis — Determination of calcium, sodium, phosphorus, magnesium, potassium, sulphur, iron, zinc, copper, manganese and cobalt after pressure digestion by ICP-AES
IS 5470 : 2002	Dicalcium phosphate, animal feed grade — Specification (<i>first revision</i>)		
IS 7874 (Part 1) : 1975	Methods of tests for animal feeds and feeding stuffs: Part 1 General methods		
IS 13433 (Part 1) : 2024/ISO 6490-1 : 1985	Animal feeds and feeding stuffs — Determination of calcium: Part 1 Titrimetric method (<i>first revision</i>)	EN 17053 : 2018	Animal feeding stuffs: Methods of sampling and analysis — Determination of trace elements, heavy metals and other elements in feed by ICP-MS (multi-method)
IS 14826 : 2021/ ISO 5985 : 2002	Animal feeding stuffs — Determination of ash insoluble in hydrochloric acid (<i>first revision</i>)		

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ANNEX B

(Foreword)

COMMITTEE COMPOSITION

Animal Feeds and Nutrition Sectional Committee, FAD 05

<i>Organization</i>	<i>Representative(s)</i>
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Association of Indian Pet Food Manufacturers, New Delhi	DR AKANKSHA SINGH SHRI GOVIND SURYAWANSHI (<i>Alternate</i>)
Centre for Science and Environment, New Delhi	SHRI AMIT KHURANA
Compound Livestock Feed Manufacturers Association of India, Navi Mumbai	PROF (DR) A. S. RANADE DR R. S. MASALI (<i>Alternate</i>)
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