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Draft Indian Standard

BARYTES FOR RUBBER INDUSTRY — SPECIFICATION

(Third Revision of IS 1683)

ICS 71.060.99

Rubber and Rubber Products Sectional
Committee, PCD 13

Last date for receipt of comment is
17 May 2024

FOREWORD

(Formal clauses will be added later)

This standard was first revised in 1973 and further revised in 1994.

In the first revision, the requirement for matter soluble in water was incorporated and all methods of tests reference were made to the IS 7086 (Part 1) standard.

In the second revision, the requirements of sieve residue (through 75 micron), relative density, manganese and copper content was modified and a new requirement of loss on ignition was included.

Third revision of this standard has been undertaken to incorporate various editorial corrections, updation of references to ensure accuracy and relevance in the revised standard.

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.

1 SCOPE

This standard prescribes the requirements and methods of sampling and test for barytes intended for use in the rubber industry.

2 REFERENCES

The following Indian Standards contain provisions which, through reference 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 the standard are encouraged to investigate the possibility of applying the most recent editions of the standard indicated below:

<i>IS No.</i>	<i>Title</i>
IS 1070 : 2023	Reagent grade water — Specification (<i>fourth revision</i>)
IS 7086 (Part 1) : 1973	Methods of sampling and test for rubber compounding ingredients, Part 1

3 REQUIREMENTS

3.1 Description

The material shall be in the form of white heavy powder.

3.2 The material shall also comply with the requirements given in Table 1.

4 PACKING AND MARKING

4.1 Packing

The material shall be packed as agreed to between the purchaser and the supplier.

4.2 Marking

4.2.1 Each package shall be marked with the following:

- a) Name of the material;
- b) Indication of the source of manufacture;
- c) Net mass of the material;
- d) Month and year of the manufacture; and
- e) Lot or batch number.

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.

Table 1 Requirements of Barytes for Rubber Industry
(Clauses 3.2, 5.3.1.1 and 6.1)

Sl No.	Characteristic	Requirement	Method of Test Ref to Cl. No in IS 7086 (Part 1)
(1)	(2)	(3)	(4)
i)	Colour	Close match to the approved sample on visual examination	—
ii)	Sieve residue, percent by mass, <i>Max</i> : a) through 75-micron IS sieve b) through 150-micron IS sieve	0.3 0.01	3
iii)	Relative density at 27/27 °C	4.2 to 4.6	4
iv)	<i>pH</i>	6 to 8	5
v)	Moisture content, percent by mass, <i>Max</i>	0.5	7
vi)	Matter soluble in water, percent by mass, <i>Max</i>	0.5	8
vii)	Matter insoluble in hydrochloric acid, percent by mass, <i>Min</i>	98	9
viii)	Manganese as (Mn), percent by mass, <i>Max</i>	0.004	11
ix)	Copper as (Cu), percent by mass, <i>Max</i>	0.002	12
x)	Iron	To satisfy requirement of test	13
xi)	Loss on ignition, percent by mass, <i>Max</i>	5.0	10

5 SAMPLING

5.1 Representative samples shall be drawn as prescribed in 15 of IS 7086 (Part 1).

5.2 Number of Tests

5.2.1 Tests for the determination of manganese and copper shall be conducted on individual samples.

5.2.2 Tests for all other characteristics shall be conducted on a composite sample.

5.3 Criteria for Conformity

5.3.1 For Individual Samples

5.3.1.1 Copper

Each individual test result shall satisfy the requirement of the specification as given in Table 1.

5.3.1.2 Manganese

The mean and range of test results for manganese shall be calculated as follows:

$$\text{Mean } (\bar{X}) = \frac{\text{The sum of test results}}{\text{Number of test results}}$$

Mean (R) = The difference between the maximum and the minimum value of the test results.

The lot shall be deemed to have satisfied the requirements of the specification, if $\bar{X} + 0.6 R \leq 0.005$.

5.3.2 For Composite Sample

In respect of all other characteristics, the lot shall be considered as conforming to the specification, if the composite sample satisfies each of these requirements.

6 TEST METHODS

6.1 The test shall be carried out according to the standards prescribed in col 4 of the Table 1.

6.2 Quality of Reagent

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 results of analysis.