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भारतीय मानक

सिंदूर — विशिष्टि

Indian Standard

SINDOOR — SPECIFICATION

ICS 71.100.70

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

April 1999

Price Group 2

Cosmetics Sectional Committee, PCD 19

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Cosmetics Sectional Committee had been approved by the Petroleum, Coal and Related Products Division Council.

Sindoor is a homogeneous fine powder consisting of pigments, colours in a medium having baryte powder as the main ingredient. Baryte powder is obtained from stone of typically 99 percent barium sulphate. Lead oxide shall not be used in *Sindoor*. It is applied on parting of hair. It is generally available in red shades.

No stipulations have been made in this standard regarding definite composition of *Sindoor*. However, it is necessary that concentration of the raw materials used in the formulation of finished product should be free from any harmful effects. For evaluating the safety of a new formulation or of a new raw material used in an old formulation, reference may be made to IS 4011 : 1997 'Methods of test for safety evaluation of cosmetics (*second revision*)'. It shall be the responsibility of the manufacturers of *Sindoor* to satisfy themselves of the dermatological and microbiological safety of their formulation according to IS 4011 : 1997 and Indian Standard on microbiological safety of cosmetics (*under preparation*) respectively before releasing the product for sale.

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 : 1960 'Rules for rounding off numerical values (*revised*)'. 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

SINDOOR — SPECIFICATION

1 SCOPE

This standard prescribes the requirements and methods of sampling and test for *Sindoor*.

2 NORMATIVE REFERENCES

The following Indian Standards are necessary adjuncts to this standard. The 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 standard are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

IS No.	*Title*
264 : 1976	Nitric acid (*second revision*)
266 : 1993	Sulphuric acid (*third revision*)
323 : 1959	Rectified spirit
1070 : 1992	Reagent grade water (*third revision*)
3958 : 1984	Methods of sampling cosmetics and toilet goods (*first revision*)
4011 : 1997	Methods for dermatological tests for cosmetics (*first revision*)
4707	Classification for cosmetic raw materials and adjuncts:
(Part 1) : 1988	Dyes, colours and pigments (*first revision*)
(Part 2) : 1993	List of raw materials generally not recognized as safe for use in cosmetics
14648 : 1998	Methods of tests for microbiological examination of cosmetics

3 REQUIREMENTS

3.1 Description

Sindoor shall be a homogeneous powder. It shall have an attractive appearance and shall not leave any stain on the skin after washing with water. It shall have a pleasant agreeable odour.

3.2 Ingredients

Unless specified otherwise, all the raw materials used in the manufacture of *Sindoor* shall conform to the requirements prescribed in the relevant Indian Standards where these exist.

3.3 Pigments

The pigments used in the manufacture of *Sindoor* are inorganic pigments and shall comply with IS 4707 (Part 1) subject to the provisions of *Schedule Q of Drug and Cosmetic Rules*.

3.4 Other Ingredients

Ingredients other than colours and pigments shall comply with the provisions of IS 4707 (Part 2).

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

Table 1 Requirements for *Sindoor*
(*Clauses* 3.5, 6 *and* D-5)

Sl No.	Characteristic	Requirement	Method of Test, Ref to Annex/IS
(1)	(2)	(3)	(4)
i)	Fineness:		A
	a) Residue on 75-micron IS sieve, percent by mass, *Max*	2.0	
	b) Residue on 150 micron IS sieve, percent by mass, *Max*	0.50	
ii)	Total volatile matter, percent by mass, *Max*	3.0	B
iii)	*p*H of aqueous suspension	5.5-9.0	C
iv)	Heavy metals (as Pb), parts per million, *Max*	20	D
v)	Arsenic (as As_2O_3), parts per million, *Max*	2	E
vi)	Total plate counts, cfu/ml, *Max*	1 000	IS 14648

4 PACKING AND MARKING

4.1 Packing

Sindoor shall be packed in a suitable well-closed container.

4.2 Marking

4.2.1 The containers shall be legibly marked with the following information:

a) Name of material;

b) Manufacturer's name and/or his recognized trade-mark, if any;
c) Net mass of the material;
d) Batch or lot number in code or otherwise;
e) Shade name or shade number; if any;
f) Best use before .....;
g) Month and year of manufacturing/packing; and
h) List of ingredients.

4.3 BIS Certification Marking

The containers may also be marked with the Standard Mark.

4.3.1 The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act*, 1986 and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

5 SAMPLING

5.1 Representative samples of the material shall be drawn as prescribed in IS 3958.

5.2 Tests for all the characteristics shall be carried out on the composite sample.

5.3 The material shall be taken as conforming to the specification if the composite sample passes all the tests.

6 TEST METHODS

Test for the requirements listed under 3 and Table 1 shall be carried out according to methods prescribed in Annexes A to E as mentioned under col 4 of Table 1.

7 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 results of analysis.

ANNEX A

[*Table* 1, *Sl No.* (i)]

DETERMINATION OF FINENESS

A-1 REAGENT

A-1.1 Denatured Spirit — filtered.

A-2 PROCEDURE

Place about 10 g of the material, accurately weighed, in the specified IS Sieve and wash by means of a slow stream of running tap water and finally with fine stream from a wash bottle until as much material as would pass through the sieve has passed. In case the material is not easily wetted by water, the washing could be started with a slow stream of filtered denatured spirit. Let the water drain from the sieve and then dry the sieve containing the residue on a steam bath. Transfer the residue on to a tared watch glass carefully and dry it to constant mass at $105 \pm 2^{\circ}C$.

A-3 CALCULATION

$$\text{Material retained on the specified sieve} = \frac{100 \times M_1}{M}$$

where

M_1 = mass in g of the residue retained on the specified sieve; and

M = mass in g of the material taken for the test.

ANNEX B

[*Table* 1, *Sl No.* (ii)]

DETERMINATION OF TOTAL VOLATILE MATTER

B-1 PROCEDURE

Weigh accurately about 5 g of the material in a porcelain or glass dish, about 6 to 8 cm in diameter and about 2 to 4 cm in depth. Dry in an air oven at a temperature of $105 \pm 2^{\circ}C$ to constant mass (within $\pm$ 5 mg).

B-2 CALCULATION

$$\text{Total volatile matter, percent by mass} = \frac{100\,(M - M_1)}{M}$$

where

M_1 = mass in g of the residue, and

M = mass in g of the material taken for the test.

ANNEX C

[*Table* 1, *Sl No.* (iii)]

DETERMINATION OF *p*H OF AQUEOUS SUSPENSION

C-1 PROCEDURE

Take 10 g of the material in a 150-ml beaker and add 90 ml of freshly boiled and cooled water. Stir well to make a thorough suspension. Determine the *p*H of the suspension using a *p*H meter within 5 minutes of making the suspension. In case of a material which does not wet, the *p*H shall be determined on the filtrate.

ANNEX D

[*Table* 1, *Sl No.* (iv)]

TEST FOR HEAVY METALS

D-1 GENERAL

The colour produced with thioacetamide reagent is compared with that obtained with standard lead solution.

D-2 APPARATUS

D-2.1 Weighing Balance — (0.000 1 g accuracy).

D-2.2 Nessler Cylinders — 25/50 ml.

D-2.3 Measuring Cylinder — 10 ml; 25 ml.

D-2.4 Pipette — 10 ml; 2 ml.

D-2.5 Volumetric Flask — 100 ml.

D-2.6 Evaporating Dish

D-3 REAGENTS

D-3.1 Acetate Buffer, *p*H — 3.5.

Dissolve 25 g of ammonium acetate in 25 ml of water and add 38 ml of 7M hydrochloric acid. Adjust the *p*H to 3.5 with either 2M hydrochloric acid or 6M ammonia and dilute to 100 ml with water.

D-3.2 Glycerol Mixture

To 15 ml of sodium hydroxide, 1M, add 5 ml of water and 20 ml of 85 percent glycerol. Mix well.

D-3.3 Thioacetamide Reagent

Weigh 80 mg of thioacetamide and add to it 2 ml of water. Shake to dissolve. Add to it 10 ml glycerol mixture, heat in water bath for 20 seconds, cool and use immediately.

D-3.4 Acetic Acid Solution — 6 M.

342 ml glacial acetic acid to 1 000 ml.

D-3.5 Lead Nitrate (Stock) Solution

Dissolve 0.159 8 g of lead nitrate in 100 ml of water to which 1 ml of nitric acid has been added. Dilute to 1 000 ml.

D-3.6 Standard Lead Solution — (10 ppm/ml).

Dilute 10 ml of lead nitrate stock solution with water to 100 ml. Each ml is equivalent to 10 ppm of lead.

D-4 PROCEDURE

Into 50 ml Nessler cylinder, pipette 1 ml of standard lead solution and dilute with water to 25 ml, add 2 ml acetate buffer (*p*H 3.5), mix. Add 1.2 ml of thioacetamide reagent, mix, immediately dilute with water to 50 ml and allow to stand for 2 minutes.

Dissolve 1 g of sample in 25 ml of 6M acetic acid. When effervescence ceases, boil the solution for 2 minutes, cool, filter into Nessler cylinder. Add 2 ml of acetate buffer (*p*H 3.5) mix. Add 1.2 ml of thioacetamide reagent, mix, immediately dilute with water to 50 ml, allow to stand for 2 minutes.

Any brown colour produced is not more intense than that produced in the standard solution.

D-5 The material shall be taken as having satisfied the requirement prescribed in Table 1 if the intensity of colour produced in the test with the material is not greater than that produced in the control test.

ANNEX E

[*Table* 1, *Sl No.* (v)]

TEST FOR ARSENIC

E-1 REAGENTS

E-1.1 Concentrated Sulphuric Acid — *See* IS 266.

E-1.2 Concentrated Nitric Acid — *See* IS 264.

E-1.3 Hydrofluoric Acid — Same as in **D-3.2.**

E-2 PROCEDURE

E-2.1 Preparation of Solution

Place 2.000 g of the material in a platinum dish and incinerate for about 2 hours at 525°C to 550°C. Cool and treat with a mixture of 5 ml of concentrated sulphuric acid and 5 ml of concentrated nitric acid. Take to fumes on a hot plate. Cool and again take to fumes with three successive portions of hydrofluoric acid. Cool and dissolve cautiously in water and make up the volume to exactly 100 ml.

E-2.2 Taking 50 ml of the solution prepared in **E-2.1**, carry out the test for arsenic as prescribed in IS 2088 using for comparison a stain obtained with 0.002 mg of arsenic trioxide (as As_2O_3).

Bureau of Indian Standards

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Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Handbook' and 'Standards Monthly Additions'

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