

भारतीय मानक
Indian Standard

IS 9875 : 2018

लिपस्टिक — विशिष्टि

(दूसरा पुनरीक्षण)

Lipstick — Specification

(Second Revision)

ICS 71.100.70

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Price Group 3

Cosmetics Sectional Committee, PCD 19

FOREWORD

This Indian Standard (Second Revision) 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.

Colour for lip adorning is available in two main forms : lipstick and lipgloss or lip rouge. Lipstick consists of a homogeneous suspension of colour in a fatty base, available in the form of shiny stick mounted on propelling type of holder whereas lipgloss or lip rouge is composed of the colours used in lipsticks suspended or dissolved in oil containing film forming additives. It is applied with brush. In this standard, lipsticks only have been covered.

This standard was first published in 1981. The Committee at that time included an informative annex wherein certain performance tests namely breaking load, penetrometer value, particle size of undispersed particles and pay-off test were included for information only. These tests were largely in-house quality control checks being exercised by a limited number of manufacturers and it was expected that by including them in standard, adequate data/experience would be available in due course, so as to specify them as requirements objectively in the standard.

This standard was first revised in 1990. In the first revision, all of the above-mentioned parameters were included as regular tests except for penetrometer test. Penetrometer test was performed to check the softness of lipstick. From the experience gained it has been found that this test is not very accurate and reliable because of the poor repeatability of results. Secondly the softening character of lipstick is well taken care of by another requirement namely softening point. Also a new requirement for rancidity (peroxide number) is being included in this revision to check the bad odour of lipstick.

In this revision, the subjective requirement of pay-off test has been replaced by limiting values. Also, unit of breaking load value has been incorporated. This revision includes all the 6 amendments to its previous version.

No stipulations have been made in this standard regarding the composition of lipsticks. However, it is necessary that the raw materials used are such that in the concentrations in which they would be present in the finished lipstick, after interaction with other raw materials used in the formulation, are free from any harmful effects. It shall be the responsibility of the manufacturers of lipstick to satisfy themselves of the safety of their formulation before releasing it 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

LIPSTICK — SPECIFICATION

(Second Revision)

1 SCOPE

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

2 REFERENCES

The standards, listed in Annex A 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 this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated at Annex A.

3 REQUIREMENTS

3.1 Description

The lipstick shall be firm but not brittle in texture. It shall have an attractive appearance, pleasant taste and feel on the lips and shall be reasonably free from sweating, bloom and rancidity.

3.2 Ingredients

Unless specified otherwise, all the raw materials used in the manufacture of lipstick shall conform to the requirements prescribed in the relevant Indian Standards, where such standards exist.

3.2.1 Dyes, Colours and Pigments

The dyes, colours and pigments used in the manufacture

of lipstick shall comply with the provisions of IS 4707 (Part 1) subject to the provisions of schedule Q of the *Drugs and Cosmetics Act* and Rules issued by the Government of India, and as amended from time to time.

3.2.2 Other Ingredients

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

3.2.3 For safety evaluation of novel ingredients used in formulation of lipstick, the lipstick shall comply to IS 4011.

3.3 The lipstick shall also comply with the requirements given in Table 1 when tested according to methods prescribed in Annex B and IS 14648. Reference to relevant clauses of Annex B is given in col 4 of the Table 1.

3.4 Additional requirement for ECO-Mark

3.4.1 General Requirements

3.4.1.1 The product shall conform to the requirements for quality, safety and performance prescribed under **3.1** to **3.3**.

3.4.1.2 All the ingredients that go into formulation of cosmetics shall comply with the provisions for IS 4707 (Part 1) and IS 4707 (Part 2).

The product shall also meet specific requirements as given in the standard.

3.4.1.3 The product package shall display a list of ingredients in descending order of quantity present.

Table 1 Requirements for Lipstick
(Clause 3.3)

Sl No.	Characteristic	Requirement	Method of Test, Ref to
(1)	(2)	(3)	(4)
i)	Softening point, <i>Min</i>	55°C	B-2
ii)	Microbiological content/limit total viable count, cfu/g	Not more than 1 000	IS 14648
iii)	Gram negative pathogens	Absent	do
iv)	Rancidity (peroxide number), <i>Max</i>	10	B-3
v)	Breaking load value, g, <i>Min</i> ¹⁾	200	B-4
vi)	Freedom from grittiness	Pass the test	B-5
vii)	Pay off test, g/cm ²	0.01–0.25	B-6
viii)	Arsenic (as As ₂ O ₃), parts per million, <i>Max</i>	2	B-7
ix)	Heavy metals (as Pb) parts per million, <i>Max</i>	20	B-8

¹⁾ The breaking load value of 200 g (*Min*) may not applicable for finner lipsticks for which the values range can be as agreed to between the supplier and the buyer.

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3.4.1.4 The product shall not be manufactured from any carcinogenic ingredients.

3.4.1.5 The manufacturer shall produce to BIS the environmental consent clearance from the concerned State Pollution Control Board as per the provisions of Water (*Prevention & Control of Pollution*) Cess Act, 1981 and the Air (*Prevention and Control of Pollution*) Act, 1981 along with the authorization, if required under Environment (*Protection*) Act, 1986 and Rules made thereunder while applying for ECO-Mark. Additionally, provisions of the *Drugs and Cosmetics Act*, 1940 and the Rules there under shall also be complied with.

3.4.2 Specific Requirement

3.4.2.1 Product shall be dermatologically safe when tested as prescribed in IS 4011.

3.4.2.2 Heavy metals calculated as lead (Pb) and arsenic as (As_2O_3) shall not exceed 20 and 2 ppm, respectively when tested by the respective method prescribed in Indian Standards.

4 PACKING AND MARKING

4.1 Packing

Each lipstick shall be packed in a metallic, plastic or any other suitable container.

4.2 The material for product packaging shall meet the parameters involved under the scheme of labelling environment friendly packaging/packaging materials.

4.3 Marking

Each container shall bear a label marked with the following information:

- a) Indication of the source of manufacture;
- b) Shade number or shade name;
- c) Batch number, in code or otherwise, to enable the lot of manufacture to be traced back from the records;
- d) Year of manufacture; and
- e) Any other particulars required by the Statutory Authorities.
- f) Best use before (Month and year to be declared by the manufacturer)

NOTE — This is exempted in case of pack size of 10 g/25 ml or less and if the shelf life of the product is more than 24 months.

- g) List of key ingredients.

NOTE — This is exempted in case of pack size of 30 g/60 ml or less.

4.3.1 The container may also be marked with the Standard Mark, details of which may be obtained from the Bureau of Indian Standards.

4.3.2 The product package shall be suitably marked that ECO-Mark label is applicable only to the contents, if the product package is not separately covered under the ECO-Mark scheme.

5 SAMPLING

5.1 Representative samples of the material shall be drawn and criteria for conformity of the material in a lot to the requirements of the specification shall be determined according to the procedure given in IS 3958.

5.1.1 Softening point, peroxide number, breaking load, particle size and pay off test shall be tested on each of the individual samples and tests for remaining requirements shall be carried out on the composite sample.

5.2 Criteria for Conformity

\bar{x} 5.2.1 For Individual Sample

The mean \bar{x} and Range R for the test results shall be calculated (range being the difference between the maximum and the minimum test results). The lot shall be declared to have satisfied the requirement for test mentioned in **5.1.1** if the value of expression ($\bar{x} - 0.6 R$) for each characteristic is equal to or greater than 99.

5.2.2 For Composite Sample

The test results on the composite sample shall meet the corresponding requirements specified in Table 1.

A lot shall be declared as conforming to this specification, if it satisfies the requirements for each of the characteristic listed in Table 1. If the requirements for any of the characteristics are not met, the lot shall be declared to have not satisfied the requirements of the specification.

ANNEX A

(Clause 2)

LIST OF REFERRED INDIAN STANDARDS

<i>IS No.</i>	<i>Title</i>	<i>IS No.</i>	<i>Title</i>
264 : 2005	Nitric acid	4707	Classification of cosmetics raw materials and adjuncts
265 : 1993	Hydrochloric acid		
266 : 1993	Sulphuric acid	(Part 1) : 2017	Colourants
695 : 1986	Acetic acid	(Part 2) : 2017	List of raw materials generally not recognized as safe for use in cosmetics
1070 : 1992	Reagent grade water		
2088 : 1983	Methods for determination of arsenic	5296 : 1995	Chloroform, pure and technical
3958 : 1984	Methods of sampling cosmetics	14648 : 2011	Methods of test for microbiological examination of cosmetics and cosmetic raw materials.
4011 : 1997	Methods of test for safety evaluation of cosmetics		

ANNEX B

(Clause 3.3)

METHODS OF TEST FOR LIPSTICK

B-1 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.

B-2 SOFTENING POINT

B-2.1 Apparatus

B-2.1.1 Flat Bottom Tube, 12 cm long and 2.5 cm in diameter.

B-2.1.2 Thermometer, accurate to 0.1°C.

B-2.2 Procedure

Place the lipstick with protruded salve in the flat bottom tube. Fix the thermometer through a cork in such a way that the bulb of the thermometer just touches the lipstick salve. Insert this arrangement into a 1 litre beaker filled with water to a level one centimeter above the upper tip of the lipstick salve. Slowly heat the water while stirring so that temperature rises at a rate not exceeding 2°C/min. When the temperature reaches about 45°C, raise the temperature at the rate of 1°C/min. Constantly watch the lipstick salve. Record the temperature when the salve starts bending and loosing its shape.

B-3 RANCIDITY (PEROXIDE NUMBER)

B-3.0 General

This test when carried out on dark coloured lipsticks is likely to be vitiated because end point in determination of peroxide number may not be very sharp. In such cases, it is expected, as a good manufacturing practice, manufacturer should check rancidity of lipstick raw materials, especially vegetable oils and other rancidity prone materials regularly in lipsticks base mixtures without colours, by peroxide number test.

B-3.1 Reagents

B-3.1.1 Acetic Acid — *See* IS 695.

B-3.1.2 Chloroform — *See* IS 5296.

B-3.1.3 Potassium Iodide Solution — Saturated.

B-3.1.4 Sodium Thiosulphate Solution — Approximately 0.01 N.

B-3.1.5 Starch Solution — Freshly prepared.

B-3.2 Procedure

Weigh 5.0 ± 0.05 g of lipstick sample in a 250 ml conical flask and dissolve in 30 ml of acetic acid-chloroform mixture (3:2). Heat, if necessary to dissolve the sample. Add 0.5 ml of freshly made saturated

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potassium iodide solution. Shake and after two minutes add 30 ml of distilled water and then titrate with 0.01 N sodium thiosulphate solution using starch as an indicator.

B-3.3 Calculation

Peroxide number = Milli equivalents peroxide per 1 000 g sample

$$= \frac{A \times N \times 1\,000}{\text{Mass of sample}}$$

where

A = volume of sodium thiosulphate, in ml, and
 N = normality of sodium thiosulphate solution.

B-4 BREAKING LOAD TEST

B-4.0 General

This test gives the value of maximum load a lipstick can withstand before it breaks.

B-4.1 Apparatus

B-4.1.1 Burette — 500 ml capacity.

B-4.1.2 Screw Chuck, to hold the lipstick.

B-4.1.3 Aluminium Cup, of 6 cm diameter and 12 cm length with an arrangement of a hook to suspend it on lipstick salve.

B-4.2 Procedure

Fix firmly the lipstick container with protruded salve of diameter ranging 11 to 13 mm, into a screw type of chuck so that the assembly is perfectly horizontal. Adjust the burette just above the lipstick salve. Make a marking at a distance of 1.5 cm from the base of the salve where lipstick salve sits in salve holder cup. Weigh the aluminium container along with hook and suspend it on this 1.5 cm mark slowly release water from the burette into the aluminium container till the salve breaks. Burette reading added with the mass of the suspended container gives the breaking load of the lipstick.

B-5 FREEDOM FROM GRITINESS

B-5.1 Procedure

Collect approximately 0.5 g of lipstick paste and spread the paste on butter paper on a HMHD sheet.

Test the paste by pressing it along the length by a finger for presence of any hard and sharp edged abrasive particles which will be distinguished readily. The material shall be free from hard and sharp edged particles.

B-6 PAY-OFF TEST

B-6.0 General

This test gives the idea of mass release from the lipstick salve.

B-6.1 Apparatus

B-6.1.1 The apparatus (*see* Fig. 1) consists of constant speed electric motor A of power 180 W (0.25 hp approximately) attached to gear arrangement B which pulls the strip of paper F (about 7 cm wide) from a roller C on to another roller G fixed on platform D through supports H . A slot arrangement B having a cylindrical tube of 4 cm length and 1.7 cm diameter is also fixed on the platform.

B-6.1.2 Constant Speed Motor, of power 180 W (0.25 hp approximately) attached to gear Arrangement which pulls the strip of paper over a fixed platform.

B-6.1.3 Paper, 7 cm wide roll.

B-6.1.4 Slot Arrangement, inner diameter 1.7 cm and length 4 cm (for inserting lipstick).

B-6.2 Procedure

Chop off the portion of lipstick salve one centimeter from the tip using a sharp blade. Rub remaining portion of the salve on a piece of paper and make the end portion perfectly flat. Run the constant speed motor and determine the time required for pulling out 100 cm of paper length. Weigh the lipstick with chopped off tip on a balance accurately. Insert this lipstick in the slot arrangement so that the flattened salve portion rests on the surface of the paper strip (*see* Fig. 2). Place a total load of 50 g including mass of the lipstick on top of the lipstick. Start the constant speed motor and with the help of stopwatch allow 100 cm length of paper to run. Re-weigh the lipstick after the rub off and measure the length and width of the line drawn on the paper strip.

B-6.3 Calculation

$$\text{Pay-off, g/cm}^2 = \frac{M_1 - M_2}{l \times b}$$

where

M_1 = mass of the lipstick before the test, in g;
 M_2 = mass of the lipstick after the test, in g;
 l = length of the line drawn on paper strip, in cm; and
 b = breadth in cm of the line drawn on paper strip, in cm.

B-7 TEST FOR ARSENIC

B-7.1 Reagents

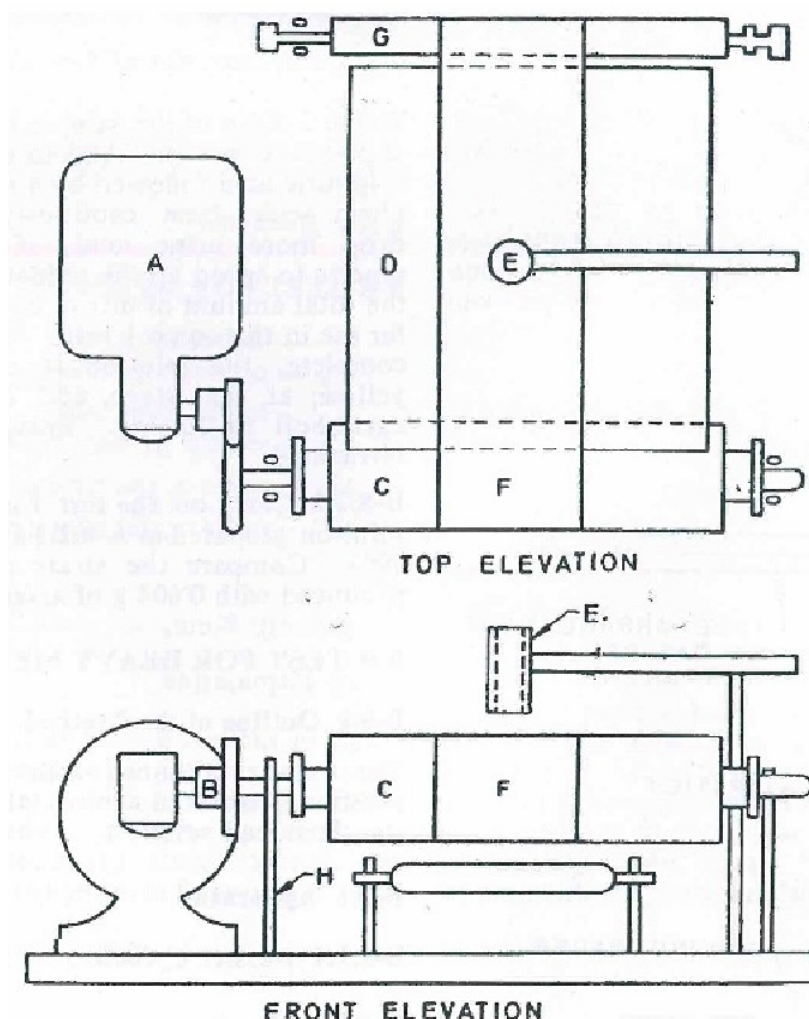
B-7.1.1 Concentrated Sulphuric Acid — *See* IS 266.

B-7.1.2 Concentrated Nitric Acid — *See* IS 264.

B-7.2 Procedure

B-7.2.1 Preparation of Sample

Weigh 2 000 g of the sample in a Kjeldahl flask of



- | | |
|---|--|
| A — Constant speed electric meter | E — Cylindrical tube arrangement for putting lipstick under test |
| B — Gear arrangement for speed transfer | F — Paper strip |
| C — Rollers | G — Roller for keeping marked paper strip |
| D — Platform | H — Support for rollers |

FIG. 1 DETAILS OF PAY-OFF MEASURING INSTRUMENT

500 ml capacity. Add 15 ml of concentrated sulphuric acid followed by 4 ml of concentrated nitric acid. Heat cautiously. Add drop by drop more nitric acid, if required, from a pipette to speed up the oxidation of the sample, the total amount of nitric acid shall be noted for use in the control test. When oxidation is complete, the solution is a clear and faint yellow; at that stage, add 20 ml of water and again boil to fuming. Ensure removal of all nitric acid.

B-7.2.2 Carry out the test for arsenic with the solution prepared in A-8.2.1 as given in IS 2088. Compare the strain obtained with that produced with 0.004 g of arsenic trioxide.

B-8 TEST FOR HEAVY METALS

B-8.0 Outline of the Method

The colour produced with hydrogen sulphide solution is matched against that obtained with standard lead solution.

B-8.1 Apparatus

B-8.1.1 Nessler Cylinders — 50 ml capacity.

B-8.2 Reagents

B-8.2.1 Dilute Hydrochloric Acid — Approximately 5 N.

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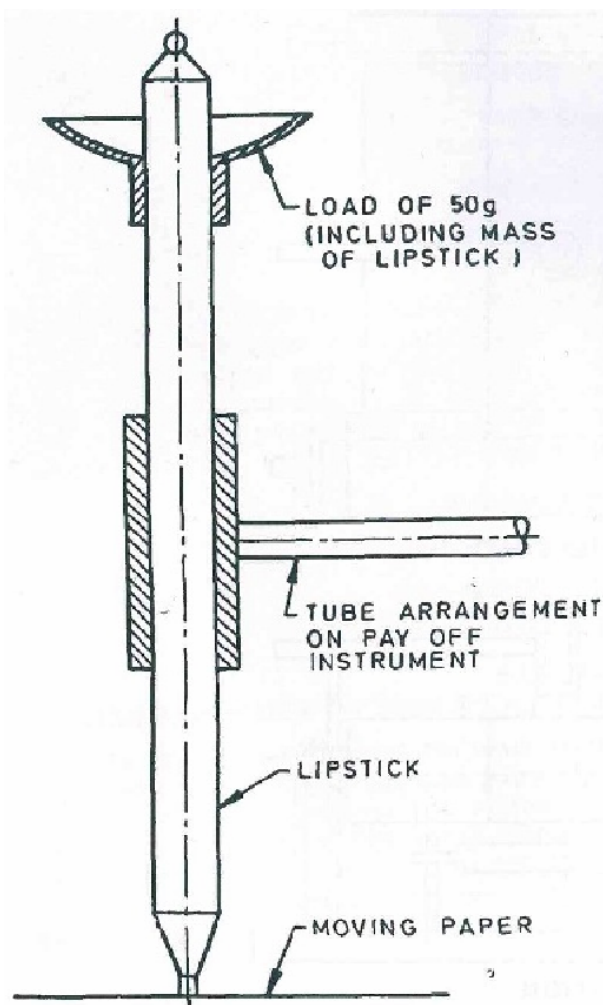


FIG. 2 MANNER OF KEEPING LIPSTICK FOR TEST

B-8.2.2 Dilute Acetic Acid — Approximately 1 N.

B-8.2.3 Dilute Ammonium Hydroxide — Approximately 5 N.

B-8.2.4 Hydrogen Sulphide Solution — Saturated.

B-8.2.5 Standard Lead Solution — Dissolve 1.600 g of lead nitrate in water and make up the solution to 1 000 ml. Pipette out 10 ml of the solution and dilute again to 1 000 ml with water. One millilitre of this solution contains 0.01 mg of lead (*as Pb*).

B-8.3 Procedure

Weigh accurately about 1.0 g of material in a crucible and heat on a hot plate and then in a muffle furnace to ignite it at 600°C to constant weight. Add 3 ml of dilute

hydrochloric acid, warm (wait till no more dissolves) and make up the volume to 50 ml. Filter the solution. Transfer 25 ml of the filtrate into a Nessler's cylinder. In the second Nessler's cylinder add 2 ml of dilute acetic acid, 1.0 ml of standard lead solution and make up the volume with water to 25 ml.

Add 1 0ml of hydrogen sulphide solution to each Nessler cylinder and make up the volume with water to 50 ml. Mix and allow to stand for 10 min. Compare the colour produced in the two Nessler's cylinders.

B-8.3.1 The limit prescribed in Table 1 shall be taken as not having been exceeded, if the intensity of colour produced in the test with the material is not greater than that produced in the second Nessler cylinder.

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