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BUREAU OF INDIAN STANDARDS

DRAFTS FOR COMMENTS ONLY

Draft Indian Standard

METHODS OF SAMPLING AND TEST FOR PAINTS, VARNISHES AND RELATED PRODUCTS

PART 2 Test on liquid paints (Chemical examination)

Sec 2 Determination of non-volatile-matter content

(Fourth Revision)

(ICS 87.040)

Paints, Varnishes and Related Products Sectional Committee, CHD 20	**Last Date for Comments**: **26 October 2024**

Paints, Varnishes and Related Products Sectional Committee, CHD 20

NATIONAL FOREWORD

(Formal Clause shall be added later)

IS 101 "Methods of Test for Ready Mixed Paints and Enamel". Initially was published as a unified standard in 1950, it underwent revisions in 1961 and 1964 to update testing procedures. In 1986, due to the large size of IS 101, the committee decided to restructure it. Recognizing the need for clarity and organization, the standard was divided into multiple parts based on test types. These parts included tests on liquid paints (general and physical), chemical examination, film formation, optical assessments, and mechanical tests on paint film formation. Each part was further subdivided into sections, addressing specific tests within those categories. Further, it was decided that whenever a new test method introduced, it would be integrated into the relevant part of IS 101 where it is most appropriate, ensuring that the standard remained comprehensive.

In the third revision in 1986, the standard was published as IS 101 (Part 2/Sec 2) 'Methods of Sampling and Test for Paints, Varnishes and Related Products Part 2 Test on liquid paints (chemical examination) Sec 2 Volatile matter (*Third Revision*)' superseding **26** of IS 101 : 1964 'Methods of test for ready mixed paints and enamels *(second revision*)'.

This standard specifies method for determining the non-volatile-matter content and volatile matter content by mass in paints varnishes and related products.

In this fourth revision, the Sectional Committee, recognizing the significance of globally uniform practices, has decided to adopt ISO 3521:2019 as an Indian Standard in dual number. Modifications have been made to align with the specific needs of the Indian paint industry, and these modifications are detailed in National Annex B.

This standard (Part 2/ Sec 2) is one of a series dealing with methods of sampling and test for paints, varnishes, and related products.

The other sections of this Indian Standard (Part 2) are:

Sec 1 Water content

Sec 3 Determination of volatile organic compound (VOC) content - Difference method

Sec 4 Determination of volatile organic compound voc and or semi volatile organic compounds svoc content gas-chromatographic

The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions and terminologies are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

a) Wherever the words `International Standard' appear referring to this standard, they should be read as `Indian Standard'.

b) Comma (,) has been used as a decimal marker in the International Standard, while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, the reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards, which are to be substituted in their respective places, are listed below along with their degree of equivalence for the editions indicated:

International Standards/ documents	***Corresponding Indian Standard***	***Degree of Equivalence***
ISO 123 Rubber latex — Sampling	IS 9316 (Part 5) : 2013/ ISO 123:2001 Methods of test for rubber latex: Part 5 drawing of samples (*second revision*)	Identical
ISO 124 Latex, rubber — Determination of total solids content	IS 9316 (Part 4) : 2023/ISO 124:2014 Methods of test for rubber latex Part 4 Determination of total solids content	Identical
ISO 1513 Paints and varnishes — Examination and preparation of test samples	IS 101 (Part 1/Sec 2) : 2023/ ISO 1513 : 2010 Methods of sampling and test for paints, varnishes and related products : Part 1 test on liquid paints (general and physical) : Sec 2 preliminary examination and preparation of samples for testing	Identical

The technical committee has reviewed the provisions of the following International Standards/ documents referred in this adopted standard and has decided that they are acceptable for use in conjunction with this Standard:

International Standards/ documents	***Title***
ISO 4618	Paints and varnishes — Terms and definitions
ISO 15528	Paints, varnishes and raw materials for paints and varnishes — Sampling

In this adopted standard, reference appears to certain International Standards/documents where the standard atmospheric conditions to be observed are stipulated which are not applicable to tropical/subtropical countries.

The applicable standard atmospheric conditions for Indian conditions are (27 ± 2) °C and (65 ± 5) percent relative humidity and shall be observed while using this standard.

In reporting the result of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS 2 : 2022 'Rules for rounding off numerical values *(second revision*)'.

National Annex B

(*National Foreword*)

B-1 Test Parameters

Unless otherwise specified in the product specifications of Paints, Varnishes and related Products Sectional Committee, CHD 20, the test parameters for this test shall be as fellows;

a) The test temperature - 105 ± 2°C
b) The period of heating - 3 h
c) The mass of test portion - 2 ± 0.2 g

B-2 Calculating Volatile Matter

The volatile matter content can be calculated as:

$$V = 100 - NV$$

Where,

$V =$ Volatile matter content, percent by mass

$NV =$ Non-volatile matter content, percent by mass