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मानक

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IS 101-9-1 (1993): Methods of sampling and test for paints, varnishes and related products, Part 9: Tests for lacquers and varnish, Section 1: Acid value [CHD 20: Paints, Varnishes and Related Products]



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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक

रोगनों, वार्निशों और सम्बद्ध उत्पादों के नमूने लेने और
परीक्षण की पद्धतियाँ

भाग 9 लैकर तथा वार्निश के परीक्षण

अनुभाग 1 अम्ल संख्या

(तीसरा पुनरीक्षण)

Indian Standard

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

PART 9 TESTS FOR LACQUERS AND VARNISH

Section 1 Acid Value

(*Third Revision*)

First Reprint JUNE 1994

UDC 667.612:543.852.1

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BUREAU OF INDIAN STANDARDS
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NEW DELHI 110002

May 1993

Price Group 1

FOREWORD

This standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Paints (Other than Industrial Paints) and Allied Products Sectional Committee had been approved by the Chemical Division Council.

Methods of sampling and test for varnishes and lacquers were first published in 1952 as IS 197 and subsequently revised in 1969. During the third revision of IS 101 'Methods of sampling and test for paints, varnishes and related products', the scope of the standard was enlarged to cover the sampling and test of varnishes and lacquers also. The concerned Sectional Committee, therefore, decided to cover this test method under IS 101 so that all the test methods for paints and allied products are covered under one standard. This standard thus supersedes 16 of IS 197.

This standard is one of series dealing with sampling and testing of paints, varnishes and related products.

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

Indian Standard

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

PART 9 TESTS FOR LACQUERS AND VARNISH

Section 1 Acid Value

(Third Revision)

1 SCOPE

This standard prescribes the method to determine the acid value of the packaged paint, varnish and related products.

2 DEFINITION

2.0 Acid Value

It is the number of milligrams of potassium hydroxide required to neutralize the free acid contained in one gram of the material.

3 PROCEDURE

3.0 Outline of the Method

Known mass of the material is dissolved in a neutral solvent mixture of toluene and ethanol and titrated against standard potassium hydroxide solution using phenolphthalein as indicator.

3.1 Apparatus

3.1.1 *Flasks* — long necked, 250 or 300 ml.

3.2 Reagents

3.2.1 *Standard Potassium Hydroxide Solution* — 0.1 N.

3.2.2 *Solvent Mixture*

Consisting of equal parts of ethanol (95 percent) and toluene. Neutralize the mixture with ethanolic potassium hydroxide solution (0.1 N) in presence of phenolphthalein as indicator.

3.2.3 *Phenolphthalein Indicator Solution*

Dissolve 0.1 g of phenolphthalein in 100 ml of 60 percent rectified spirit.

3.3 Procedure

3.3.1 Add indicator solution to the required amount of solvent mixture in ratio of 2 ml to 125 ml and neutralize with alkali to a faint but permanent pink colour. Weigh 5 to 10 g of the well mixed liquid sample accurately into the flask. Add 125 ml of the neutralized solvent mixture to the contents of the flask and dissolve the sample completely, warming if necessary. Titrate this against standard potassium hydroxide solution to the appearance of light permanent pink colour of the same intensity as that of the neutralized solvent before the latter was added to the sample. The colour shall persist for 30 seconds.

3.3.2 *Calculation*

Calculate the acid value as follows:

$$\text{Acid value (as mg of KOH/g sample)} = 56.1 \times \frac{V N}{M}$$

where

V = Volume in ml of standard potassium hydroxide solution used;

N = Normality of standard potassium hydroxide solution; and

M = Mass, in g, of the material taken for the test.

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Doc : No. CHD 020 (0234)

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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