

**Värvide ja lakkide sideained.  
Seebistumisarvu määramine.  
Tiitrimismeetod**

Binders for paints and varnishes - Determination of  
saponification value - Titrimetric method

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 3681:2000 sisaldab Euroopa standardi EN ISO 3681:1998 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 10.05.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 3681:2000 consists of the English text of the European standard EN ISO 3681:1998.</p> <p>This document is endorsed on 10.05.2000 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b></p> <p>Standard esitab tiitrimismeetodi värvide ja lakkide sideainetes sisalduva esterdatud hapete sisalduse määramiseks, kusjuures peab saadud tulemuses tingimata sisalduma vabu happeid või hapete anhüdriide. Meetodit ei saa rakendada selliste materjalide korral, mis näitavad leelistega reageerimise jätkumist pärast normaalset seebistumist.</p>	<p><b>Scope:</b></p>
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**ICS** 87.060.20

**Võtmesõnad:** katsed, keemiakatsed, lakid, mahtanalüüs, määramine, seebistusrav, sideained (materjalid), värvid

ICS 87.060.20

Descriptors: Binders, paints, varnishes, saponification value, testing.

**English version**

**Binders for paints and varnishes**

Determination of saponification value – Titrimetric method  
(ISO 3681 : 1996)

Liants pour peintures et vernis –  
Détermination de l'indice de saponifi-  
cation – Méthode titrimétrique  
(ISO 3681 : 1996)

Bindemittel für Beschichtungsstoffe –  
Bestimmung der Verseifungszahl –  
Titrimetrisches Verfahren  
(ISO 3681 : 1996)

This European Standard was approved by CEN on 1998-03-09.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

The European Standards exist in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

**CEN**

European Committee for Standardization  
Comité Européen de Normalisation  
Europäisches Komitee für Normung

**Central Secretariat: rue de Stassart 36, B-1050 Brussels**

## Foreword

International Standard

ISO 3681 : 1996 Binders for paints and varnishes – Determination of saponification value – Titrimetric method, which was prepared by ISO/TC 35 'Paints and varnishes' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 139 'Paints and varnishes', the Secretariat of which is held by DIN, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by October 1998 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

## Endorsement notice

The text of the International Standard ISO 3681 : 1996 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to international publications are listed in Annex ZA (normative).

## 1 Scope

This International Standard specifies a titrimetric method for determining the esterified-acid content in binders for paints and varnishes, free acids and acid anhydrides being necessarily included in the result obtained.

Because different binders vary in their resistance to saponification, this International Standard is of limited applicability. If necessary, completeness of saponification may be checked by repeating the test under more severe conditions achieved by the use of longer saponification time, more concentrated potassium hydroxide solution, or a higher-boiling alcohol as solvent.

Annex A specifies a procedure suitable for binders that saponify with difficulty.

The method is not applicable to those materials that show further reaction with alkalis beyond normal saponification.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 385-1:1984, *Laboratory glassware — Burettes — Part 1: General requirements*.

ISO 648:1977, *Laboratory glassware — One-mark pipettes*.

ISO 842:1984, *Raw materials for paints and varnishes — Sampling*.

ISO 3696:1987, *Water for analytical laboratory use — Specification and test methods*.

## 3 Definitions

For the purposes of this International Standard, the following definitions apply.

**3.1 saponification:** The formation of the alkali metal salts of derivatives of organic acids.

**3.2 saponification value:** The number of milligrams of potassium hydroxide (KOH) required for the saponification of 1 g of the product tested.

## 4 Principle

After a preliminary test to determine the saponification conditions (concentration of potassium hydroxide solution, saponification time, etc.) for the product to be tested, a test portion is boiled under reflux with potassium hydroxide solution under these conditions. The hot solution is titrated with standard volumetric hydrochloric acid, either in the presence of a colour indicator or potentiometrically.

## 5 Reagents

During the analysis, use only reagents of recognized analytical grade, and only water of at least grade 3 purity as defined in ISO 3696.

**5.1 Toluene,** or other suitable unsaponifiable solvent.