

**Värvide ja lakkide sideained. Vaba formaldehüüdi
sisalduse määramine aminoaldehüüdvaikudes.
Naatriumsulfitiga tiitrimise meetod**

Binders for paints and varnishes - Determination of free-
formaldehyde content of amino resins - Sodium sulfite
titrimetric method

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 9020:2000 sisaldab Euroopa standardi EN ISO 9020:1998 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 10.05.2000 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN ISO 9020:2000 consists of the English text of the European standard EN ISO 9020:1998.

This standard is ratified with the order of Estonian Centre for Standardisation dated 10.05.2000 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

The standard is available from Estonian standardisation organisation.

ICS 87.060.20

aminoplastid, formaldehüüd, keemiline analüüs, lakid, mahtanalüüs, sideained (materjalid), sisalduse määramine, termoreaktiivsed vaigud, värvid

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Descriptors: see ISO document

English version

Binders for paints and varnishes - Determination of free-formaldehyde content of amino resins - Sodium sulfite titrimetric method (ISO 9020:1994, including Technical Corrigendum 1:1996)

Liants pour peintures et vernis - Dosage du formaldéhyde libre dans les résines aminoplastes - Méthode titrimétrique au sulfite de sodium (ISO 9020:1994, Rectificatif technique 1:1996 inclus)

Bindemittel für Beschichtungsstoffe - Bestimmung des Gehaltes an freiem Formaldehyd in Aminharzen - Titrimetrisches Verfahren mit Natriumsulfit (ISO 9020:1994, einschließlich Technische Korrektur 1:1996)

This European Standard was approved by CEN on 26 March 1998.

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.

This European Standard exists 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

Foreword

The text of the International Standard from Technical Committee ISO/TC 35 "Paints and varnishes" of the International Organization for Standardization (ISO) has been taken over as an European Standard by Technical Committee CEN/TC 139 "Paints and varnishes", the secretariat of which is held by DIN.

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

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 9020:1994, including Technical Corrigendum 1:1996, has been approved by CEN as a European Standard without any modification.

NOTE: Normative references to International Standards are listed in annex ZA (normative).

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Annexe ZA (normative)

**Références normatives aux publications internationales avec
leurs publications européennes correspondantes**

Cette norme européenne comporte par référence datée ou non datée des dispositions d'autres publications. Ces références normatives sont citées aux endroits appropriés dans le texte et les publications sont énumérées ci-après. Pour les références datées les amendements ou révisions ultérieurs de l'une quelconque de ces publications ne s'appliquent à cette norme européenne que s'ils y ont été incorporés par amendement ou révision. Pour les références non datées, la dernière édition de la publication à laquelle il est fait référence s'applique.

<u>Publication</u>	<u>Année</u>	<u>Titre</u>	<u>EN</u>	<u>Année</u>
ISO 3696	1987	Eau pour laboratoire à usage analytique - Spécification et méthodes d'essai	EN ISO 3696	1995

INTERNATIONAL STANDARD

ISO
9020

First edition
1994-02-15

This document is a preview generated by EVS

Binders for paints and varnishes — Determination of free-formaldehyde content of amino resins — Sodium sulfite titrimetric method

*Liants pour peintures et vernis — Dosage du formaldéhyde libre dans les
résines aminoplastes — Méthode titrimétrique au sulfite de sodium*

INTERNATIONAL

ISO



Reference number
ISO 9020:1994(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 9020 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 10, *Test methods for binders for paints and varnishes*.

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International Organization for Standardization
Case Postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

Binders for paints and varnishes — Determination of free-formaldehyde content of amino resins — Sodium sulfite titrimetric method

1 Scope

This International Standard specifies a titrimetric method for determining the free-formaldehyde content of amino resins. It is applicable to resins resulting from the polycondensation of urea and melamine with formaldehyde and to furan resins resulting from the polycondensation of furfuryl alcohol with formaldehyde without further modification.

The method is not applicable to furan resins modified with phenolic resins.

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 Principle

The method is based on the following reactions:

- a) $\text{CH}_2\text{O} + \text{Na}_2\text{SO}_3 \text{ (excess)} + \text{H}_2\text{O} \xrightarrow[\text{15 min}]{\text{pH} = 9,2 \text{ to } 9,4} \text{HOCH}_2\text{—SO}_3\text{Na} + \text{NaOH}$
- b) $\text{ROCH}_2\text{OH} + \text{Na}_2\text{SO}_3 \text{ (excess)} + \text{H}_2\text{O} \xrightarrow[\text{15 min}]{\text{pH} = 9,2 \text{ to } 9,4} \text{HOCH}_2\text{—SO}_3\text{Na} + \text{ROH} + \text{NaOH}$
- c) $\text{>N—CH}_2\text{OH} + \text{Na}_2\text{SO}_3 \xrightarrow{0\text{ }^\circ\text{C}} \text{no reaction under the test conditions}$