

Tekstiilid. Teatavatest asovärvidest pärit aromaatsete amiinide määramise meetodid. Osa 1: Teatavate asovärvide kasutamise avastamine kiudude ekstraktsiooniga ja ilma

Textiles - Methods for determination of certain aromatic amines derived from azo colorants - Part 1: Detection of the use of certain azo colorants accessible with and without extracting the fibres

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 14362-1:2012 sisaldb Euroopa standardi EN 14362-1:2012 ingliskeelset teksti. Standard on kinnitatud Eesti Standardikeskuse 29.02.2012 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas. Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kätesaadavaks tegemise kuupäev on 08.02.2012. Standard on kätesaadav Eesti standardiorganisatsionist.	This Estonian standard EVS-EN 14362-1:2012 consists of the English text of the European standard EN 14362-1:2012. This standard is ratified with the order of Estonian Centre for Standardisation dated 29.02.2012 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation. Date of Availability of the European standard text 08.02.2012. The standard is available from Estonian standardisation organisation.
---	--

ICS 59.080.01

chemical analysis and testin, colorimetric analysis, colourfastness, extraction, high performance liquid chromatography, hplc, investigation methods, mathematical calculations, methods, reducing agents, testing, tests, textile industry, textile testing, textiles

Standardite reproduutseerimis- ja levitamisõigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonilisse süsteemi või edastamine ükskõik millises vormis või millisel teel on keelatud ilma Eesti Standardikeskuse poolt antud kirjaliku loata.

Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
Aru 10 Tallinn 10317 Estonia; www.evs.ee; Telefon: 605 5050; E-post: info@evs.ee

Right to reproduce and distribute belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without permission in writing from Estonian Centre for Standardisation.

If you have any questions about standards copyright, please contact Estonian Centre for Standardisation:
Aru str 10 Tallinn 10317 Estonia; www.evs.ee; Phone: 605 5050; E-mail: info@evs.ee

February 2012

ICS 59.080.01

Supersedes EN 14362-1:2003, EN 14362-2:2003

English Version

Textiles - Methods for determination of certain aromatic amines
derived from azo colorants - Part 1: Detection of the use of
certain azo colorants accessible with and without extracting the
fibres

Textiles - Méthodes de détermination de certaines amines
aromatiques dérivées de colorants azoïques - Partie 1 :
Détection de l'utilisation de certains azo-colorants
accessibles avec ou sans extraction

Textilien - Verfahren für die Bestimmung bestimmter
aromatischer Amine aus Azofarbstoffen - Teil 1: Nachweis
der Verwendung bestimmter Azofarbstoffe mit oder ohne
Extraktion

This European Standard was approved by CEN on 22 December 2011.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

	Page
Foreword.....	4
1 Scope	5
2 Normative references	5
3 General.....	5
4 Principle.....	7
5 Safety precautions.....	7
6 Reagents.....	7
7 Apparatus	8
8 Test specimen sampling and preparation.....	10
8.1 General.....	10
8.2 Textile article	10
8.3 Fibre composition.....	10
8.4 Case of the fibre blends	11
8.5 Printed materials.....	11
8.6 Colours	11
8.6.1 General.....	11
8.6.2 Case of colour gathering	11
8.6.3 Preparation of the three colour test specimen	12
9 Procedure	12
9.1 Colorant extraction for disperse dyes	12
9.1.1 Extraction of disperse dyes with chlorobenzene	12
9.1.2 Textiles only dyed with disperse dyes	12
9.1.3 Textiles dyed with disperse dyes and/or other dyes	12
9.2 Textiles dyed with dyes other than disperse dyes.....	12
9.3 Reductive cleavage	12
9.4 Separation and concentration of the amines.....	13
9.5 Amine detection and quantification.....	13
9.6 Check procedure.....	13
9.6.1 General.....	13
9.6.2 Calibration using internal standard (quantification performed by gas chromatography)	13
9.6.3 Calibration without internal standard	14
10 Evaluation.....	14
10.1 General.....	14
10.2 Calculation of amine in the sample.....	15
10.3 Reliability of the method	15
11 Test report	15
Annex A (informative) Chromatographic analyses	16
A.1 Preliminary remark	16
A.2 Thin layer chromatography (TLC)	16
A.3 High performance liquid chromatography (HPLC).....	17
A.4 Capillary gas chromatography/mass selective detector (GC/MS)	18
A.5 Capillary electrophoresis (CE)	18
Annex B (informative) Reliability of the method	20
Annex C (informative) Assessment guide-interpretation of analytical results	22
Annex D (informative) Explanatory table of dyestuffs used in various textile materials.....	23

D.1	General	23
D.2	Criteria for printed materials	24
Annex E (informative) Procedure for liquid/liquid-extraction without diatomaceous earth.....		25
E.1	Preliminary remark	25
E.2	Additional reagents used.....	25
E.3	Additional apparatus used	26
E.4	Procedure	26
Annex F (normative) Colorants - Methods for determination of certain aromatic amines		28
F.1	Scope	28
F.2	Principle.....	28
F.3	Test specimen preparation.....	28
F.4	Procedure	28
F.5	Evaluation.....	28
F.6	Test report	28
Bibliography.....		29

Foreword

This document (EN 14362-1:2012) has been prepared by Technical Committee CEN/TC 248 "Textiles and textile products", the secretariat of which is held by BSI.

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 August 2012, and conflicting national standards shall be withdrawn at the latest by August 2012.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 14362-1:2003, EN 14362-2:2003.

EN 14362 is composed of the following parts:

- EN 14362-1, *Textiles — Methods for determination of certain aromatic amines derived from azo colorants — Part 1: Detection of the use of certain azo colorants accessible with and without extracting the fibres*;
- EN 14362-3, *Textiles — Methods for determination of certain aromatic amines derived from azo colorants — Part 3: Detection of the use of certain azo colorants which may release 4-aminoazobenzene*.

The following is a list of technical changes since the last edition:

- Part 2 of EN 14362 has been integrated into Part 1. This is mainly reflected in:
 - changes to Clause 4 "Principle";
 - insertion of a new Clause 8 "Test specimen sampling and preparation";
 - insertion of a new Subclause 9.1 "Colorant extraction for disperse dyes";
 - insertion of a new Subclause 9.2 "Textiles dyed with dyes other than disperse dyes";
 - addition of Annex D (informative) "Explanatory table of dyestuffs used in various textile materials".
- Addition of Annex F (normative) "Colorants - Methods for determination of certain aromatic amines";
- The calculation, previously Annex B (normative) has been moved to Subclause 9.6.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard describes a procedure to detect the use of certain azo colorants that may not be used in the manufacture or treatment of certain commodities made of textile fibres and that are accessible to reducing agent with and without extraction.

Azo colorants accessible to reducing agent without extraction are those used to dye:

- cellulosic fibres (e.g. cotton, viscose);
- protein fibres (e.g. wool, silk);
- synthetic fibres (e.g. polyamide, acrylic).

Azo colorants accessible with extraction are those used to dye man-made fibres with disperse dyes. The following man-made fibres can be dyed with disperse dyes: polyester, polyamide, acetate, triacetate, acrylic and chlorofibre.

For certain commodities made of cellulose and/or protein fibres blended with man-made fibres it is necessary to extract the dye first.

The method is relevant for all coloured textiles, e.g. dyed, printed and coated textiles.

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN ISO 3696:1995, *Water for analytical laboratory use — Specification and test methods (ISO 3696:1987)*

3 General

Certain azo colorants may release, by reductive cleavage of azo group(s), one or more of the following aromatic amines, which are proscribed under Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency.