

**Surface active agents - Determination of  
N-(3- dimethylaminopropyl)-alkylamide  
content in alkylamidopropylbetaines -  
Gas chromatographic method**

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dimethylaminopropyl)-alkylamide content in  
alkylamidopropylbetaines - Gas chromatographic  
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## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 14881:2005 sisaldab Euroopa standardi EN 14881:2005 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 29.09.2005 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 14881:2005 consists of the English text of the European standard EN 14881:2005.</p> <p>This document is endorsed on 29.09.2005 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> This European Standard specifies a method for the determination of the content of free N-(3-dimethylaminopropyl)- alkylamides (amidoamine) in alkylamidopropylbetaines, expressed in grams per 100 g of product.</p>	<p><b>Scope:</b> This European Standard specifies a method for the determination of the content of free N-(3-dimethylaminopropyl)- alkylamides (amidoamine) in alkylamidopropylbetaines, expressed in grams per 100 g of product.</p>
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ICS 71.100.40

Võtmesõnad:

ICS 71.100.40

English Version

Surface active agents - Determination of N-(3-dimethylaminopropyl)-alkylamide content in alkylamidopropylbetaines - Gas chromatographic method

Agents de surface - Détermination de la teneur en N-(3-diméthylaminopropyl)-alkylamide dans les alkylamidopropylbétaines - Méthode par chromatographie en phase gazeuse

Grenzflächenaktive Stoffe - Bestimmung des Gehaltes an N-(3-dimethyl-aminopropyl)-alkylamid in Alkylamidopropylbetainen - Gaschromatographisches Verfahren

This European Standard was approved by CEN on 8 July 2005.

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.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

## Contents

	Page
Foreword .....	3
1 Scope .....	4
2 Normative references .....	4
3 Principle .....	4
4 Reagents .....	4
5 Apparatus .....	5
6 Sampling and preparation of the sample .....	5
7 Procedure .....	5
8 Calculation and expression of results .....	6
9 Precision .....	6
10 Test report .....	6
Annex A (informative) N-(3-(dimethylaminopropyl)-undecylamide .....	7
Annex B (informative) Reference gas chromatogram .....	8
Annex C (informative) Validation method .....	10
Annex D (informative) Inter-laboratory test results .....	11
Bibliography .....	12

## Foreword

This European Standard (EN 14881:2005) has been prepared by Technical Committee CEN/TC 276 "Surface active agents", the secretariat of which is held by AFNOR.

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 February 2006, and conflicting national standards shall be withdrawn at the latest by February 2006.

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

## 1 Scope

This European Standard specifies a method for the determination of the content of free N-(3-dimethylaminopropyl)-alkylamides (amidoamine) in alkylamidopropylbetaines, expressed in grams per 100 g of product.

This method is applicable in the range between 0,02 g and 1,0 g of amidoamine per 100 g of product.

## 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, *Water for analytical laboratory use – Specification and test methods (ISO 3696:1987)*

ISO 607, *Surface active agents and detergents – Methods of sample division*

## 3 Principle

The method is based on the amidoamine extraction with diethyl ether at alkaline pH and subsequent analysis of the organic extract by GLC-FID. The chromatogram resolves the different amidoamines according to their alkyl chain length. The result is calculated from the sum of all the chain homologues.

## 4 Reagents

**WARNING: Your attention is drawn to the regulations covering the handling of hazardous substances. Technical organisational and personal protection measures should be observed.**

During the analysis, unless otherwise specified, use only reagents of recognized analytical grade that have been checked in advance as not interfering with the analytical results.

**4.1 Water**, complying with grade 3 as defined in EN ISO 3696.

NOTE If the water is purified via ion-exchange resins, ensure that no cationic or anionic species from the resins cause interference.

**4.2 Ethanol**

**4.3 Diethyl ether**

**4.4 N-(3-dimethylaminopropyl)-undecylamide** (amidoamine-C11), purity  $\geq 98$  % m/m.

NOTE The N-(3-dimethylaminopropyl) alkylamide standard preparation and purity determination are given in Annex A.

**4.5 Potassium hydroxide**, ethanolic solution  $c(\text{KOH}) = 1$  mol/l.

**4.6 Internal standard solution**

Weigh in a 50 ml volumetric flask, to the nearest 0,1 mg, approximately 0,2 g of the amidoamine-C11 (4.4). Dissolve and make up to the mark with ethanol (4.2). Keep tightly closed.

**4.7 Sodium chloride**, aqueous solution, 30 % m/m.

**4.8 Phenolphthalein**, solution of 1 % m/V in ethanol.