Surface active agents - Quantitative determination of free fatty acid in alkylamidopropylbetaines - Gas-chromatographic method

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 15608:2008 sisaldab Euroopa standardi EN 15608:2008 ingliskeelset teksti.	This Estonian standard EVS-EN 15608:2008 consists of the English text of the European standard EN 15608:2008.
Standard on kinnitatud Eesti Standardikeskuse 20.06.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 20.06.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 07.05.2008.	Date of Availability of the European standard text 07.05.2008.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

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Võtmesõnad:

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English Version

Surface active agents - Quantitative determination of free fatty acid in alkylamidopropylbetaines - Gas-chromatographic method

Agents de surface - Dosage quantitatif des acides gras libres dans les alkylamidopropylbétaïnes - Méthode par chromatographie en phase gazeuse

Grenzflächenaktive Stoffe - Quantitative Bestimmung freier Fettsäure in Alkylamidopropylbetainen - Gaschromatographisches Verfahren

This European Standard was approved by CEN on 11 April 2008.

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

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Contents

Foreword

This document (EN 15608:2008) 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of an identical text or by endorsement, at the latest by November 2008, and conflicting national standards shall be withdrawn at the latest by November 2008.

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1 Scope

This European Standard specifies a procedure for the determination of the content of free fatty acid, FFA, in alkylamidopropylbetaines, which is defined as being the amount of fatty acid expressed in grams per 100 g of product.

This method has been validated for the determination of fatty acids from C_6 to C_{20} in a total concentration range from 0,02 g to more than 3,0 g fatty acid per 100 g of product.

2 Normative references

The following referenced documents are indispensable for the application of this document. 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 free fatty acids are extracted with petroleum ether at acidic pH. Then the extracted fatty acids are derivatised and subsequently analysed by GLC-FID. The chromatogram resolves the different acids according to their alkyl chain length. For quantification the sum of the peak areas of all fatty acid homologues is related to the peak area of the internal standard tridecanoic acid.

4 Reagents

4.1 General

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 and that have been checked in advance as to not interfere with the analytical results and water complying with grade 1 as defined in EN ISO 3696.

4.2 Tridecanoic acid, purity ≥ 99 % (m/m) (CAS number: 638-53-9).

4.3 Petroleum ether (40 ºC to 60 ºC) (CAS number: 101316-46-5).

4.4 Ethanol (CAS number: 64-17-5).

4.5 HCl, *c* = 37% (m/m) (CAS number: 7647-01-0).

4.6 Internal Standard Solution

Weigh to the nearest 0,1 mg, 0,3 g of pure tridecanoic acid (4.2) in a 25 ml volumetric flask and make up to the mark with petroleum ether. This is the Internal Standard Solution.

4.7 TMPAH, Trimethylphenylammonium hydroxide solution, c(TMPAH) about 0,5 M in methanol (CAS number: 1899-02-1).