Fruit and vegetable juices - Determination of glucose, fructose, sorbitol and sucrose contents - Method using high performance liquid chromatography

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EESTI STANDARDI EESSÕNA

Käesolev Eesti standard EVS-EN 12630:2001 sisaldab Euroopa standardi EN 12630:1999 ingliskeelset teksti. Käesolev dokument on jõustatud 18.06.2001 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 12630:2001 consists of the English text of the European standard EN 12630:1999. This document is endorsed on 18.06.2001 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

NATIONAL FOREWORD

Käsitlusala: This standard specifies a high performance liquid chromatographic method for the determination of the glucose, fructose, sorbitol and sucrose contents in fruit and vegetable juices and related products.	**Scope:** This standard specifies a high performance liquid chromatographic method for the determination of the glucose, fructose, sorbitol and sucrose contents in fruit and vegetable juices and related products.

ICS 67.160.20

Võtmesõnad: chemical analysis, chromatographic analysis, determination of content, fructose, fruit- and vegetable juices, glucose, high performance liquid chromatography, sorbitol

EUROPEAN STANDARD
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Descriptors: Juices, glucose, fructose, sorbitol, testing.

English version

Fruit and vegetable juices

Determination of glucose, fructose, sorbitol and sucrose contents – Method using high performance liquid chromatography

Jus de fruits et de légumes – Dosage du glucose, du fructose, du sorbitol et du saccharose – Méthode par chromatographie liquide haute performance

Frucht- und Gemüsesäfte – Bestimmung des Glucose-, Fructose-, Sorbit- und Saccharosegehaltes – Hochleistungs-flüssigchromatographisches Verfahren

This European Standard was approved by CEN on 1999-01-08.

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.

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CEN

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

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

Contents

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 174 "Fruit and vegetable juices - Methods of analysis", 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 August 1999, and conflicting national standards shall be withdrawn at the latest by August 1999.

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.

1 Scope

This European Standard specifies a high performance liquid chromatographic method for the determination of the glucose, fructose, sorbitol and sucrose contents in fruit and vegetable juices and related products.

This method does not allow the determination of sucrose in the presence of maltose due to overlapping of the peaks.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

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

3 Symbols and abbreviations

3.1 Symbols

For the purposes of this standard, the following symbols apply :

c substance concentration ;

ρ mass concentration ;

g acceleration due to gravity at the surface of the earth (9,81 ms^{-2}).

3.2 Abbreviations

For the purposes of this standard, the following abbreviations apply :

HPLC High performance liquid chromatography ;

EDTA Ethylenediaminetetraacetic acid.

4 Principle

The sugars and sorbitol are separated on a cation-exchange resin (sulfonated polystyrene-divinylbenzene copolymer in the Ca^{2+} form) by isocratic elution using an aqueous solution of calcium disodium-EDTA as the mobile phase. The sugars and sorbitol are detected using a differential refractive index detector and quantified using the external standard method.