SLOVENSKI STANDARD
SIST EN 13176:2015

01-junij-2015

Nadomešča:
SIST EN 13176:2008

Kemikalije, ki se uporabljajo za pripravo pitne vode - Etanol

Chemicals used for treatment of water intended for human consumption - Ethanol

Produkte zur Aufbereitung von Wasser für den menschlichen Gebrauch - Ethanol

Produits chimiques utilisés pour le traitement de l'eau destinée à la consommation humaine - Éthanol

Ta slovenski standard je istoveten z: EN 13176:2015

ICS:

13.060.20	Pitna voda	Drinking water
71.100.80	Kemikalije za čiščenje vode	Chemicals for purification of water

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EUROPEAN STANDARD

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English Version

Chemicals used for treatment of water intended for human consumption - Ethanol

Produits chimiques utilisés pour le traitement de l'eau destinée à la consommation humaine - Éthanol

Produkte zur Aufbereitung von Wasser für den menschlichen Gebrauch - Ethanol

This European Standard was approved by CEN on 20 December 2014.

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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.

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

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Contents

Page

Foreword

This document (EN 13176:2015) has been prepared by Technical Committee CEN/TC 164 “Water supply”, 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of an identical text or by endorsement, at the latest by September 2015, and conflicting national standards shall be withdrawn at the latest by September 2015.

This document supersedes EN 13176:2008.

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.

Significant technical difference between this edition and EN 13176:2008 is as follows:

a) deletion of reference to EU Directive 67/548/EEC of June 27, 1967 in order to take into account the latest Regulation in force (see [2]);

b) 6.2 – updating of risk and safety labelling according to EU Regulation [2] and its latest Adaptations to Technical Progress).

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, Former Yugoslav Republic of Macedonia, 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.

Introduction

In respect of potential adverse effects on the quality of water intended for human consumption, caused by the product covered by this European Standard:

a) this European Standard provides no information as to whether the product may be used without restriction in any of the Member States of the EU or EFTA;

b) it should be noted that, while awaiting the adoption of verifiable European criteria, existing national regulations concerning the use and/or the characteristics of this product remain in force.

NOTE Conformity with this European Standard does not confer or imply acceptance or approval of the product in any of the Member States of the EU or EFTA. The use of the product covered by this European Standard is subject to regulation or control by National Authorities.

1 Scope

This European Standard is applicable to synthetic ethanol used for treatment of water intended for human consumption. It describes the characteristics of synthetic ethanol and specifies the requirements and the corresponding test methods for synthetic ethanol. It gives information on its use in water treatment.

NOTE This European Standard does not apply to anhydrous ethanol which is not used for drinking water treatment.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1233, *Water quality - Determination of chromium - Atomic absorption spectrometric methods*

EN ISO 12846, *Water quality - Determination of mercury - Method using atomic absorption spectrometry (AAS) with and without enrichment (ISO 12846)*

EN 26595, *Water quality — Determination of total arsenic — Silver diethyldithiocarbamate spectrophotometric method (ISO 6595)*

EN ISO 3696, *Water for analytical laboratory use - Specification and test methods (ISO 3696)*

ISO 3165, *Sampling of chemical products for industrial use — Safety in sampling*

ISO 3856-2, *Paints and varnishes — Determination of "soluble" metal content — Part 2: Determination of antimony content — Flame atomic absorption spectrometric method and Rhodamine B spectrophotometric method*

ISO 6206, *Chemical products for industrial use — Sampling — Vocabulary*

ISO 8288:1986, *Water quality — Determination of cobalt, nickel, copper, zinc, cadmium and lead — Flame atomic absorption spectrometric methods*

ISO 9965, *Water quality — Determination of selenium — Atomic absorption spectrometric method (hydride technique)*

3 Description

3.1 Identification

3.1.1 Chemical name

Ethanol.

3.1.2 Synonym or common name

Ethyl alcohol.

3.1.3 Relative molecular mass

46,07

3.1.4 Empirical formula

C_2H_60

3.1.5 Chemical formula

C_2H_5OH

3.1.6 CAS Registry Number [1)]

64-17-5

3.1.7 EINECS reference [2)]

200-57-86

3.2 Commercial form

The product is available as colourless liquid.

3.3 Physical properties

3.3.1 Appearance

The product is colourless liquid at 20 °C.

3.3.2 Density

The density at 20 °C is given in Table 1 (see [3] and [4]).

Table 1 — Density

Concentration Mass fraction %	Density g/ml
95	0,8114
95,1	0,8110
95,2	0,8106
95,3	0,8104
95,4	0,8100
95,5	0,8096
95,6	0,8092
95,7	0,8088
95,8	0,8084
95,9	0,8080
96	0,8076

1) Chemical Abstracts Service Registry Number.

2) European Inventory of Existing Commercial Chemical Substances.

3.3.3 Solubility in water

Miscible.

3.3.4 Vapour pressure (at 20 °C)

5,81 kPa (for pure ethanol)

3.3.5 Boiling point at 100 kPa [3)]

78,2 °C (for pure ethanol)

3.3.6 Melting point

- 112,3 °C (for pure ethanol)

3.3.7 Specific heat

2,399 kJ/(kg K) at 20 °C (for pure ethanol)

3.3.8 Viscosity, dynamic

1,2 mPa.s at 20 °C (for pure ethanol)

3.3.9 Critical temperature (for gas)

240,77 °C

3.3.10 Critical pressure (for gas)

6 400 kPa

3.3.11 Physical hardness

Not applicable.

3.4 Chemical properties

Ethanol is a polar and protic organic solvent.

4 Purity criteria

4.1 General

This European Standard specifies the minimum purity requirements for Ethanol used for the treatment of water intended for human consumption. Limits are given for impurities commonly present in the product. Depending on the raw material and the manufacturing process other impurities may be present and, if so, this shall be notified to the user and when necessary to relevant authorities.

Users of this product should check the national regulations in order to clarify whether it is of appropriate purity for treatment of water intended for human consumption, taking into account raw water quality, required dosage, contents of other impurities and additives used in the product not stated in the product standard.

3) 100 kPa = 1 bar