BRITISH STANDARD

BS EN 13194:2000

Chemicals used for treatment of water intended for human consumption — Acetic acid

The European Standard EN 13194:2000 has the status of a British Standard

ICS 71.100.80

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National foreword

This British Standard is the official English language version of EN 13194:2000.

The UK participation in its preparation was entrusted to Technical Committee CII/59, Chemicals for drinking water treatment, which has the responsibility to:

— aid enquirers to understand the text;

— present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;

— monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

The United Kingdom did not support this standard at the CEN Enquiry stage and voted against its acceptance at the Formal Vote stage. The principal UK objections were as follows:

a) in **4.1** there is a requirement that the remainder shall be water but there is no test method for water content and the "remainder" will also include traces of impurities;

b) according to the information given in **5.2.1.6** the method for determining the acetic acid content is very imprecise.

Additional information

Article 8 of the Council of the European Community Directive 80/778/EEC relating to the quality of water intended for human consumption requires Member States to ensure that substances used in the preparation of drinking water do not cause any contravention of the maximum admissible concentrations prescribed in annex 1 to the Directive.

This requirement is given effect in England and Wales by regulation 25 of the Water Supply (Water Quality) Regulations 1989 (similar provisions apply in Scotland and Northern Ireland). Regulation 25 makes provision for attaching conditions of use to chemicals and filter media that are authorized for use in public water supplies.

Details of conditions of use are contained in the Secretary of State's List of Approved Products published by the Drinking Water Inspectorate, Floor 2/A1, Ashdown House, 123 Victoria Street, London SW1E 6DE (www.dwi.detr.gov.uk/list/index/htm).

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled "International Standards Correspondence Index", or by using the "Find" facility of the BSI Standards Electronic Catalogue.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 21 and a back cover.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 13194

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English version

Chemicals used for treatment of water intended for human consumption - Acetic acid

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

Produkte zur Aufbereitung von Wasser für den menschlichen Gebrauch - Essigsäure

This European Standard was approved by CEN on 25 June 2000.

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

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Foreword

This European Standard 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 January 2001, and conflicting national standards shall be withdrawn at the latest by January 2001.

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.

Annex A is informative.

Annex B is normative.

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Introduction

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

a) this 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.

1 Scope

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

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 1483, *Water quality - Determination of mercury.*

EN 26595, *Water quality - Determination of total arsenic - Silver diethyldithiocarbamate spectrophometric method (ISO 6595:1982)*.

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

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, *Water quality - Determination of cobalt, nickel, copper, zinc, cadmium and lead - Flame atomic absorption spectrometric methods.*

ISO 9174, *Water quality - Determination of chromium - Atomic absorption spectrometric methods.*

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

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3 Description

3.1 Identification

3.1.1 Chemical name

Acetic acid, ethanoic acid

3.1.2 Synonym or common name

Glacial acetic acid

3.1.3 Relative molecular mass

60,05

3.1.4 Empirical formula

$C_2H_4O_2$

3.1.5 Chemical formula

CH_3COOH

3.1.6 CAS Registry Number[1)]

64-19-7

3.1.7 EINECS reference[2)]

203-56-48

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.

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1) Chemical Abstracts Service Registry Number.

2) European Inventory of Existing Commercial Chemical Substances.

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Table 1 — Density

Concentration % (*m*/*m*)	Density (g/ml)
80	1,068 to 1,072
99,85	1,049 to 1,050

3.3.3 Solubility in water

Miscible

3.3.4 Vapour pressure (at 20 °C)

1,57 kPa (for pure acetic acid)

3.3.5 Boiling point at 100 kPa[3)]

118 °C (for pure acetic acid)

3.3.6 Melting point

16,2 °C (for pure acetic acid)

3.3.7 Specific heat

2,047 kJ/(kg·K) at 20 °C (for pure acetic acid)

3.3.8 Viscosity, dynamic

1,222 mPa·s at 20 °C (for pure acetic acid)

3.3.9 Critical temperature (for gas)

Not applicable

3.3.10 Critical pressure (for gas)

Not applicable

3.3.11 Physical hardness

Not applicable

3.4 Chemical properties

Acetic acid is a weak acid.

4 Purity criteria

Limits have been given for impurities and toxic substances where these are likely to be present in significant quantities from the current production process and raw materials. If a change in the production process or

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3) 100 kPa = 1 bar.

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