SLOVENSKI STANDARD
SIST EN 12672:2001

01-december-2001

Kemikalije, ki se uporabljajo za pripravo pitne vode - Kalijev permanganat

Chemicals used for treatment of water intended for human consumption - Potassium permanganate

Produkte zur Aufbereitung von Wasser für den menschlichen Gebrauch - Kaliumpermanganat

Produits chimiques utilisés pour le traitement de l'eau destinée a la consommation humaine - Permanganate de potassium

Ta slovenski standard je istoveten z: EN 12672:2000

ICS:

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

SIST EN 12672:2001 **en**

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 12672

July 2000

ICS 71.100.80

English version

Chemicals used for treatment of water intended for human consumption - Potassium permanganate

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

Produkte zur Aufbereitung von Wasser für den menschlichen Gebrauch - Kaliumpermanganat

This European Standard was approved by CEN on 11 June 2000.

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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 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

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

Ref. No. EN 12672:2000 E

Contents

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of an identical text or by endorsement, at the latest by January 2001, and conflicting national standards shall be withdrawn at the latest by January 2001.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.

Introduction

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

1) 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 ;

2) 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 potassium permanganate used for treatment of water intended for human consumption. It describes the characteristics of potassium permanganate and specifies the requirements and the corresponding test methods for potassium permanganate. 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 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 6595, *Water quality - Determination of total arsenic - Silver diethydithiocarbonate spectrophotometric method.*

ISO 8213, *Chemical products for industrial use - Sampling techniques - Solid chemical products in the form of particles varying from powders to coarse lumps.*

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).*

3 Description

3.1 Identification

3.1.1 Chemical name

Potassium permanganate.

3.1.2 Synonym or common name

Permanganate of potash.

3.1.3 Relative molecular mass

158,04.

3.1.4 Empirical formula

$KMnO_4$.

3.1.5 Chemical formula

$KMnO_4$.

3.1.6 CAS Registry Number [1)]

7722-64-7.

3.1.7 EINECS reference [2)]

231-76-03.

3.2 Commercial forms

Solid product, consisting of rhombic crystals. For water treatment the commercial forms normally used are :

— technical grade to be dosed in liquid form, dissolved in water ;

— free-flowing grade to be dosed either in solid form or dissolved in water.

3.3 Physical properties

3.3.1 Appearance

Crystals of a dark purple or bronze-like colour. Almost opaque by transmitted light and of a blue metallic lustre by reflected light.

The free-flowing grade can present a different colour, usually greyish.

3.3.2 Density

The density of the product is 2,70 g/cm^3 at 20 °C.

The bulk density is between 1,45 g/cm^3 and 1,60 g/cm^3.

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1) Chemicals Abstracts Service Registry Number.

2) European Inventory of Existing Commercial Chemical Substances.

3.3.3 Solubility (in water)

The product is soluble in water.

The solubility in water is given in Table 1.

Table 1 — Solubility in water

$KMnO_4$ g/l	Temperature °C
44,0	10
53,0	15
62,8	20
250,0	65

3.3.4 Vapour pressure

Not applicable.

3.3.5 Boiling point at 100 kPa[3)]

Not applicable.

3.3.6 Melting point

Product decomposes at 240 °C with emission of oxygen.

3.3.7 Specific heat

744,2 J /kg.K at 20 °C.

3.3.8 Viscosity (dynamic)

Not applicable.

3.3.9 Critical temperature

Not applicable.

3.3.10 Critical pressure

Not applicable.

3.3.11 Physical hardness

Not applicable.

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3) 100 kPa = 1 bar.