SLOVENSKI STANDARD
SIST EN 12913:2013

01-december-2013

Nadomešča:
SIST EN 12913:2006

Proizvodi, ki se uporabljajo za pripravo pitne vode - Prašnata diatomejska zemlja

Products used for treatment of water intended for human consumption - Powdered diatomaceous earth

Produkte zur Aufbereitung von Wasser für den menschlichen Gebrauch - Kieselgur, pulverförmig

Produits utilisés pour le traitement de l'eau destinée à la consommation humaine - Terre de diatomées en poudre

Ta slovenski standard je istoveten z: **EN 12913:2012**

ICS:

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

SIST EN 12913:2013 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 12913

November 2012

ICS 71.100.80

Supersedes EN 12913:2005

English Version

Products used for treatment of water intended for human consumption - Powdered diatomaceous earth

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This European Standard was approved by CEN on 9 September 2012.

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

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Foreword

This document (EN 12913:2012) 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of an identical text or by endorsement, at the latest by May 2013, and conflicting national standards shall be withdrawn at the latest by May 2013.

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.

This document supersedes EN 12913:2005.

The significant technical difference between this edition and EN 12913:2005 is as follows:

— Updating of 9.2 in line with current legislation.

According to the CEN/CENELEC Internal Regulations, the national standards organisations 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 powdered diatomaceous earth used for treatment of water intended for human consumption. It describes the characteristics of powdered diatomaceous earth and specifies the requirements and the corresponding test methods for powdered diatomaceous earth and gives information on its use in water treatment. It also determines the rules relating to safe handling and use of powdered diatomaceous earth (see Annex B).

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 12901:1999, *Products used for treatment of water intended for human consumption — Inorganic supporting and filtering materials — Definitions*

EN 12902, *Products used for treatment of water intended for human consumption — Inorganic supporting and filtering materials — Methods of test*

3 Terms, definitions and symbols

For the purposes of this document, the terms, definitions and symbols given in EN 12901:1999 apply.

4 Description

4.1 Identification

4.1.1 Chemical name

Not applicable.

4.1.2 Synonym or common names

Diatomite, Kieselguhr, Diatomaceous earth, Calcined diatomite, Flux calcined diatomite.

4.1.3 Chemical formula

Not applicable.

4.1.4 CAS Registry numbers [1)]

— 61 790-53-2 Dry and ground;

— 91 053-39-3 Diatomaceous calcined;

— 68 855-54-9 Flux calcined.

1) Chemical Abstracts Service Registry Number.

4.1.5 EINECS reference [2)]

Calcined 293-303-4.

4.2 Commercial form

The product is available in powder forms in many grades differing in permeability.

5 Physical properties

5.1 Appearance

The product is a white (flux calcined), pink (calcined), or white to green (natural), powder.

5.2 Particle size distribution

5.2.1 Particle size

A mass fraction of at least 95 % shall have a particle size less than 1 000 µm.

NOTE Other values can be necessary for certain applications. The particle size distribution is commonly specified as a mass fraction of 95 % less than a given particle size.

The particle size distribution shall be within the manufacturer's declared values.

5.2.2 Uniformity coefficient

Not relevant.

5.2.3 Oversize and undersize particles

The proportion of oversize and undersize particles shall be within the manufacturer's declared values.

5.3 Density — bulk density packed

The bulk density packed shall be in the range of 150 kg/m^3 to 550 kg/m^3.

6 Chemical properties

This European Standard specifies the minimum purity requirements for powdered diatomaceous earth 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, contents of other impurities and additives used in the products not stated in this product standard.

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

2) European Inventory of existing Commercial Chemical Substances.

materials lead to significant quantities of impurities, by-products or additives being present, this shall be notified to the user.

The composition of the commercial product shall conform to Table 1.

Table 1 — Composition of commercial product

Parameter		Limit in mass fraction %
SiO_2	min	85
Mass loss at 150 °C	max	5

After filling, washing and commissioning of a filter system producing drinking water, powdered diatomaceous earth should not increase the concentrations of chemical parameters (see [1]).

NOTE Water extractable substances, determined in accordance with the method for powdered materials given in EN 12902, can be used to estimate the leaching of the chemicals specified in EN 12902.

7 Specific properties

The permeability shall be within 15 % of the manufacturer's declared value and the cake density shall be within 5 % of the manufacturer's declared value.

8 Test methods

8.1 Sampling

Prepare the laboratory sample(s) required by the relevant procedures described in EN 12902.

8.2 Analysis

8.2.1 Particle size distribution

The particle size distribution shall be determined in accordance with EN 12902.

8.2.2 Bulk density packed

The bulk density packed shall be determined in accordance with EN 12902.

8.2.3 Content of silica

The content of silica shall be determined in accordance with EN 12902.

8.2.4 Mass loss at 150 °C

The mass loss at 150 °C shall be determined using the method for water content described in EN 12902 using a temperature of (150 ± 5) °C.

8.2.5 Permeability

The permeability shall be determined in accordance with EN 12902.