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**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

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

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

EN 12913

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English version

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

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consommation humaine - Terre de diatomées en poudre

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This European Standard was approved by CEN on 16 July 1999.

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.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

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## Contents

	Page
Foreword.....	3
Introduction .....	4
1 Scope .....	5
2 Normative references .....	5
3 Definitions and symbols .....	5
4 Description .....	5
4.1 Identification .....	5
4.2 Commercial form.....	6
5 Physical properties.....	6
5.1 Appearance.....	6
5.2 Particle size distribution .....	6
5.3 Density .....	6
6 Chemical properties .....	6
7 Specific properties.....	7
8 Test methods.....	7
8.1 Sampling .....	7
8.2 Analysis.....	7
9 Labelling, transportation and storage .....	7
9.1 Means of delivery .....	7
9.2 Risk and safety labelling according to the EU directive .....	8
9.3 Transportation regulations and labelling.....	8
9.4 Marking .....	8
9.5 Storage.....	8
Annex A (informative) General information on powdered diatomaceous earth .....	10
Annex B (normative) General rules relating to safety.....	12
Bibliography .....	13

## 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 February 2000, and conflicting national standards shall be withdrawn at the latest by February 2000.

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.

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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 :

- 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.

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## 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.

## 2 Normative references

This European Standard incorporates by dated and 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 12901, *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 Definitions and symbols

For the purpose of this standard, the definitions and symbols given in EN 12901 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<sup>1)</sup>

61 790-53-2	Dry and ground ;
90 053-39-3	Diatomaceous calcined ;
68 855-54-9	Flux calcined.

<sup>1)</sup> Chemical Abstracts Service Registry Number

#### 4.1.5 EINECS reference<sup>2)</sup>

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

At least 95 percent by mass (% (*m/m*)) shall have a particle size less than 1000  $\mu\text{m}$ .

NOTE Other values can be necessary for certain applications. The particle size distribution is commonly specified as 95 % (*m/m*) 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

### 5.3.1 Bulk density packed

The bulk density packed shall be in the range of 150  $\text{kg/m}^3$  to 550  $\text{kg/m}^3$ .

## 6 Chemical properties

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

Table 1 - Composition of commercial product

Parameter		Limit in % ( <i>m/m</i> ) of the product
SiO <sub>2</sub>	min.	85
Mass loss at 150 °C	max.	5

<sup>2)</sup> European Inventory of existing Commercial Chemical Substances



NOTE 1 After filling, washing and commissioning of a filter system producing drinking water, powdered diatomaceous earth should not increase the content of toxic substances. For the purpose of this standard, "toxic substances" are those defined in the EU Directive 80/778/EEC of July 15, 1980 (see [1]).

NOTE 2 Water extractable toxic substances determined in accordance with the method for powders given in EN 12902 can be used to estimate the leaching of toxic substances.

## 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

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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  $(150 \pm 5)$  °C.

#### 8.2.5 Permeability

The permeability shall be determined in accordance with EN 12902.

#### 8.2.6 Cake density

The cake density shall be determined in accordance with EN 12902.

## 9 Labelling, transportation and storage

### 9.1 Means of delivery

Diatomaceous earth shall be delivered in bags, big bags, or in bulk.

In order that the purity of the product is not affected, the means of delivery shall not have been used previously for any different product or it shall have been specially cleaned and prepared before use.