



SLOVENSKI STANDARD
SIST EN 1018:1999
01-april-1999

Kemikalije, ki se uporabljajo za pripravo pitne vode – Kalcijev karbonat

Chemicals used for treatment of water intended for human consumption - Calcium carbonate

Produkte zur Aufbereitung von Wasser für den menschlichen Gebrauch - Calciumcarbonat

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

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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

EN 1018

NORME EUROPÉENNE

EUROPÄISCHE NORM

May 1998

ICS 71.100.80

Descriptors: potable water, water treatment, chemical compounds, calcium carbonates, description, physical properties, chemical properties, impurities, toxic substances, tests, labelling, storage

English version

Chemicals used for treatment of water intended for human consumption - Calcium carbonate

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This European Standard was approved by CEN on 30 April 1998.

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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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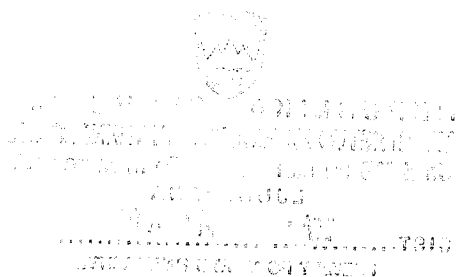


EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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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of an identical text or by endorsement, at the latest by November 1998, and conflicting national standards shall be withdrawn at the latest by month of November 1998.

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.

1 Scope

This European Standard is applicable to calcium carbonate used for treatment of water intended for human consumption. It describes the characteristics of calcium carbonate and specifies the requirements and the corresponding test methods for calcium carbonate. 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 459-2	Building lime - Part 2 : Test methods
prEN 12485	Chemicals used for treatment of water intended for human consumption - Calcium carbonate, high-calcium lime and half-burnt dolomite - Test methods
prEN 12902	Products used for treatment of water intended for human consumption - Inorganic supporting and filtering materials - Test methods
ISO 3165	Sampling of chemical products for industrial use - Safety in sampling
ISO 6206	Chemical products for industrial use - Sampling - Vocabulary

3 Description

3.1 Identification

3.1.1 Chemical name

Calcium carbonate.

3.1.2 Synonym or common name

Limestone.

3.1.3 Relative molecular mass

100,09.

3.1.4 Empirical formula

CaCO₃.

3.1.5 Chemical formula

CaCO₃.

3.1.6 CAS Registry Number ¹⁾

471-34-1.

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3.1.7 EINECS reference ²⁾

207-439-9.

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3.2 Commercial forms

Calcium carbonate is available in crushed, granular and pelletized form of various particle size ranges.

3.3 Physical properties**3.3.1 Appearance**

The product is a white or grey material in crushed, granular and pelletized form.

3.3.2 Density

The density is 2,71 g/cm³ at 20 °C.

The bulk density is from 1,0 g/cm³ to 1,5 g/cm³.

¹⁾ Chemical Abstracts Service Registry Number.

²⁾ European Inventory of Existing Commercial Chemical Substances.

3.3.3 Solubility in water

The solubility of product is equal to 0,014 g/l at 10 °C.

3.3.4 Vapour pressure

Not applicable.

3.3.5 Boiling point at 100 kPa ³⁾

Not applicable.

3.3.6 Melting point

Not known.

3.3.7 Specific heat

Not applicable.

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3.3.8 Viscosity (dynamic) **(standards.iteh.ai)**

Not applicable.

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3.3.9 Critical temperature

Not applicable.

3.3.10 Critical pressure

Not applicable.

3.3.11 Physical hardness

Not relevant.

3.3.12 Particle size

It varies depending on the application (see A.2.2).

³⁾ 100 kPa = 1 bar

3.4 Chemical properties

Calcium carbonate product reacts as an alkali when dissolved in water. With carbon dioxide and water it reacts to form calcium hydrogen carbonate.

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

4.1 Composition of commercial product

The product shall conform to the requirements specified in table 1.

Table 1 : Composition of commercial product

Parameter	Non-porous calcium carbonate			Porous calcium carbonate	
	Type 1	Type 2	Type 3	Type 1	Type 2
Content of calcium carbonate (CaCO ₃) % (m/m)	> 98	> 94	> 80	> 97	> 85
Total content of calcium carbonate (CaCO ₃) and magnesium carbonate (MgCO ₃) expressed as CaCO ₃ - MgCO ₃ % (m/m)	> 98	> 94	> 90	> 99	> 95

4.2 Impurities and main by-product

The product shall conform to the requirements specified in table 2.

Table 2 : Impurities

Impurity	Non-porous calcium carbonate			Porous calcium carbonate	
	Level 1	Level 2	Level 3	Level 1	Level 2
Content of residue not soluble in hydrochloric acid % (m/m) max.	2	6	12	1	5