

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

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 16003:2011 sisaldab Euroopa standardi EN 16003:2011 ingliskeelset teksti.	This Estonian standard EVS-EN 16003:2011 consists of the English text of the European standard EN 16003:2011.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kätesaadavaks 23.11.2011.	Date of Availability of the European standard is 23.11.2011.
Standard on kätesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile [standardiosakond@evs.ee](mailto:standardiosakond@evs.ee).

ICS 71.100.80

### Standardite reproduutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:  
Aru 10, 10317 Tallinn, Eesti; [www.evs.ee](http://www.evs.ee); telefon 605 5050; e-post [info@evs.ee](mailto:info@evs.ee)

### The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:  
Aru 10, 10317 Tallinn, Estonia; [www.evs.ee](http://www.evs.ee); phone 605 5050; e-mail [info@evs.ee](mailto:info@evs.ee)

EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

EN 16003

November 2011

ICS 71.100.80

English Version

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

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

Produkte zur Aufbereitung von Wasser für den menschlichen Gebrauch - Calciummagnesiumcarbonat

This European Standard was approved by CEN on 8 October 2011.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

## Contents

	Page
<b>Foreword</b> .....	<b>4</b>
<b>Introduction</b> .....	<b>5</b>
<b>1 Scope</b> .....	<b>6</b>
<b>2 Normative references</b> .....	<b>6</b>
<b>3 Description</b> .....	<b>6</b>
<b>3.1 Identification</b> .....	6
<b>3.1.1 Chemical name</b> .....	6
<b>3.1.2 Synonym or common name</b> .....	6
<b>3.1.3 Relative molecular mass</b> .....	6
<b>3.1.4 Empirical formula</b> .....	6
<b>3.1.5 Chemical formula</b> .....	6
<b>3.1.6 CAS Registry Number</b> .....	6
<b>3.1.7 EINECS reference</b> .....	7
<b>3.2 Commercial forms</b> .....	7
<b>3.3 Physical properties</b> .....	7
<b>3.3.1 Appearance</b> .....	7
<b>3.3.2 Density</b> .....	7
<b>3.3.3 Solubility in water</b> .....	7
<b>3.3.4 Vapour pressure</b> .....	7
<b>3.3.5 Boiling point at 100 kPa</b> .....	7
<b>3.3.6 Melting point</b> .....	7
<b>3.3.7 Specific heat</b> .....	7
<b>3.3.8 Viscosity (dynamic)</b> .....	7
<b>3.3.9 Critical temperature</b> .....	7
<b>3.3.10 Critical pressure</b> .....	7
<b>3.3.11 Physical hardness</b> .....	8
<b>3.3.12 Particle size</b> .....	8
<b>3.4 Chemical properties</b> .....	8
<b>4 Purity criteria</b> .....	<b>8</b>
<b>4.1 General</b> .....	8
<b>4.2 Composition of commercial product</b> .....	8
<b>4.3 Impurities and main by-product</b> .....	8
<b>4.4 Chemical parameters</b> .....	9
<b>5 Test methods</b> .....	<b>9</b>
<b>5.1 Sampling</b> .....	9
<b>5.2 Analyses</b> .....	9
<b>6 Labelling - Transportation - Storage</b> .....	<b>9</b>
<b>6.1 Means of delivery</b> .....	9
<b>6.2 Risk and safety labelling according to the EU Directives</b> .....	9
<b>6.3 Transportation regulations and labelling</b> .....	10
<b>6.4 Marking</b> .....	10
<b>6.5 Storage</b> .....	10
<b>6.5.1 Long term stability</b> .....	10
<b>6.5.2 Storage incompatibilities</b> .....	10
<b>Annex A (informative) General information on calcium carbonate</b> .....	<b>11</b>
<b>A.1 Origin</b> .....	11
<b>A.1.1 Raw materials</b> .....	11
<b>A.1.2 Manufacturing process</b> .....	11
<b>A.2 Use</b> .....	11

A.2.1	Function.....	11
A.2.2	Other properties .....	11
A.2.3	Form in which it is used.....	11
A.2.4	Treatment dose .....	11
A.2.5	Means of application .....	12
A.2.6	Secondary effects.....	12
A.2.7	Removal of excess product.....	12
A.3	Rules for safe handling and use .....	12
A.4	Emergency procedures.....	12
A.4.1	First aid .....	12
A.4.2	Spillage .....	12
A.4.3	Fire .....	12
	Bibliography.....	13

## Foreword

This document (EN 16003:2011) 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 2012, and conflicting national standards shall be withdrawn at the latest by May 2012.

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.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland 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 Standard:

- 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;
- 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 the 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 calcium magnesium carbonate used for treatment of water intended for human consumption. It describes the characteristics of calcium magnesium carbonate and specifies the requirements and the corresponding test methods for calcium magnesium carbonate. It gives information on its use in water treatment.

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 12485, *Chemicals used for treatment of water intended for human consumption — Calcium carbonate, high-calcium lime, half-burnt dolomite, magnesium oxide and calcium magnesium carbonate — 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 magnesium carbonate.

#### 3.1.2 Synonym or common name

Dolomite.

#### 3.1.3 Relative molecular mass

184,39.

#### 3.1.4 Empirical formula

$\text{CaCO}_3 \text{ MgCO}_3$ .

#### 3.1.5 Chemical formula

$\text{CaCO}_3 \text{ MgCO}_3$ .

#### 3.1.6 CAS Registry Number <sup>1)</sup>

16389-88-1.

---

1) Chemical Abstracts Service Registry Number.