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English Version

Chemicals used for treatment of water intended for human consumption - Half-burnt dolomite

Produits chimiques pour le traitement de l'eau destinée à la consommation humaine - Dolomie semi-calcinée

Produkte zur Aufbereitung von Wasser für den menschlichen Gebrauch - Halbgebrannter Dolomit

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prEN 1017:2023 (E)

European foreword

This document (prEN 1017:2023) has been prepared by Technical Committee CEN/TC 164 “Water supply”, the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 1017:2014+A1:2017.

prEN 1017:2023 includes the following significant technical changes with respect to EN 1017:2014+A1:2017:

- a) in A.2.2, direct reference to [4] in the Bibliography was added;
- b) in the Bibliography, the older Drinking Water Directive was replaced with the revised one.

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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 document:

- a) this document 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 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 document is subject to regulation or control by National Authorities.

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prEN 1017:2023 (E)**1 Scope**

This document is applicable to half-burnt dolomite used for treatment of water intended for human consumption. It describes the characteristics of half-burnt dolomite and specifies the requirements and the corresponding test methods for half-burnt dolomite. It gives information on its use in water treatment.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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, calcium magnesium carbonate and dolomitic lime — Test methods*

ISO 3165, *Sampling of chemical products for industrial use — Safety in sampling*

ISO 6206, *Chemical products for industrial use — Sampling — Vocabulary*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

4 Description**4.1 Identification****4.1.1 Chemical name**

Calcium magnesium carbonate oxide.

4.1.2 Synonym or common name

Half-burnt dolomite; dolomite, calcined; half-calcined dolomite.

4.1.3 Relative molecular mass

140,39.

4.1.4 Empirical formula

CCaMgO₄.

4.1.5 Chemical formula

CaCO₃.MgO.

4.1.6 CAS Registry Number ¹⁾

83897-84-1.

4.1.7 EINECS reference ²⁾

281-192-5.

4.2 Commercial forms

Half-burnt dolomite is available in crushed and granular form of various particle size ranges.

4.3 Physical properties

4.3.1 Appearance

The production is a white or grey granular material.

4.3.2 Density

The density is equal to 2,4 g/cm³ at 20 °C. The bulk density is between 1,05 g/cm³ to 1,2 g/cm³.

4.3.3 Solubility in water

The solubility of the product is 0,02 g/l at 10 °C.

4.3.4 Vapour pressure

Not applicable.

4.3.5 Boiling point at 100 kPa ³⁾

Not applicable.

4.3.6 Melting point

Not known.

4.3.7 Specific heat

Not applicable.

4.3.8 Viscosity (dynamic)

Not applicable.

4.3.9 Critical temperature

Not applicable.

4.3.10 Critical pressure

Not applicable.

4.3.11 Physical hardness

Not applicable.

¹⁾ Chemical Abstracts Service Registry Number.

²⁾ European Inventory of Existing Commercial Chemical Substances.

³⁾ 100 kPa = 1 bar.

prEN 1017:2023 (E)**4.3.12 Particle size**

It varies depending on the application (see A.2.3).

4.4 Chemical properties

Half-burnt dolomite reacts as an alkali when dissolved in water. It reacts with carbon dioxide and water to form calcium hydrogen carbonate and magnesium hydrogen carbonate.

5 Purity criteria**5.1 General**

This document specifies the minimum purity requirements for half-burnt dolomite 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, required dosage, contents of other impurities and additives used in the product 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 materials lead to significant quantities of impurities, by-products or additives being present, this shall be notified to the user.

5.2 Composition of commercial product

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

Table 1 — Composition of commercial product

Parameter	Content in mass fraction in % of commercial product
Free MgO and Mg(OH) ₂ expressed as MgO min	23
Content of CaCO ₃ expressed as CaCO ₃ min	68

5.3 Impurities and main by-product

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