

**Produkter för beredning av dricksvatten – Järn
(III) hydroxidoxid**

**Products used for treatment of water intended for
human consumption – Iron (III) hydroxide oxide**

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English Version

Products used for treatment of water intended for human consumption - Iron (III) hydroxide oxide

Produits utilisés pour le traitement de l'eau destinée à la consommation humaine - Oxyde hydroxyde de fer (III)

Produkte zur Aufbereitung von Wasser für den menschlichen Gebrauch - Eisen(III)hydroxidoxid

This European Standard was approved by CEN on 3 February 2006.

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EN 15029:2006 (E)

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Foreword

This European Standard (EN 15029:2006) 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of an identical text or by endorsement, at the latest by September 2006, and conflicting national standards shall be withdrawn at the latest by September 2006.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, 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.

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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 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 the 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 iron (III) hydroxide oxide used for the treatment of water intended for human consumption. It describes the characteristics of iron (III) hydroxide oxide and specifies the requirements and the corresponding test methods for iron (III) hydroxide oxide. It gives information on its use in water treatment.

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the reference 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*

ISO 9277, *Determination of the specific surface area of solids by gas adsorption using the BET method*

3 Terms, definitions and symbols

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

4 Description

4.1 Identification

4.1.1 Chemical name(s)

Iron (III) hydroxide, iron hydroxide oxide

4.1.2 Synonym or common names

Granular ferric hydroxide, granulated iron oxide, granulated iron oxide hydroxide, synthetic iron oxide, synthetic iron oxide hydroxide, Goethite, Akaganeite.

4.1.3 Chemical formula

$\text{Fe}(\text{OH})_3$, FeOOH

4.1.4 CAS Registry Number ¹⁾

Iron hydroxide oxide: 20344-49-4

1) Chemical Abstracts Service Registry Number.

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4.1.5 EINECS Reference ²⁾

Iron hydroxide oxide: 243-746-4

4.2 Commercial form

Iron (III) hydroxide oxide is a granular product consisting of irregularly shaped (non-moulded) particles; the product is available in different particle sizes. The water content is a mass fraction of up to 50 %.

5 Physical properties

5.1 Appearance

The product consists of black to brown granular material with particles of irregular shape. The product shall be generally homogeneous and shall be visibly free of extraneous matter.

5.2 Particle size distribution

The particle size distribution shall be described by either:

- a) effective size (d_{10}) with a maximum deviation of ± 5 %;
- uniformity coefficient (U) less than 2,1;
- minimum size (d_1) with a maximum deviation of ± 5 %.

or

- b) particle size range and mass fraction of oversize and undersize particles; see A.2.2.1.

The proportion of oversize plus undersize particles shall not exceed a mass fraction of 20 % and not more than a mass fraction of 10 % shall be undersized.

NOTE 1 The particle size can decrease during transportation and handling.

NOTE 2 Other values can be necessary for certain applications.

5.3 Density

The bulk density (loose) shall be within ± 10 % of the value specified by the manufacturer or supplier.

NOTE The bed density (backwashed and drained) should be in the range of 500 kg/m³ to 1 800 kg/m³.

6 Chemical properties

This European Standard specifies the minimum purity requirements for iron (III) hydroxide oxide 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.

2) European Inventory of Existing Commercial Chemical Substances.