

SVENSK STANDARD

SS-EN 15029:2012

Fastställt/Approved: 2012-11-17
Publicerad/Published: 2012-11-26
Utgåva/Edition: 2
Språk/Language: engelska/English
ICS: 13.060.20; 71.100.80

Produkter för beredning av dricksvatten – Järn (III) hydroxidoxid

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

This preview is downloaded from www.sis.se. Buy the entire standard via <https://www.sis.se/std-88024>

Standarder får världen att fungera

SIS (Swedish Standards Institute) är en fristående ideell förening med medlemmar från både privat och offentlig sektor. Vi är en del av det europeiska och globala nätverk som utarbetar internationella standarder. Standarder är dokumenterad kunskap utvecklad av framstående aktörer inom industri, näringsliv och samhälle och befrämjar handel över gränser, bidrar till att processer och produkter blir säkrare samt effektiviserar din verksamhet.

Delta och påverka

Som medlem i SIS har du möjlighet att påverka framtida standarder inom ditt område på nationell, europeisk och global nivå. Du får samtidigt tillgång till tidig information om utvecklingen inom din bransch.

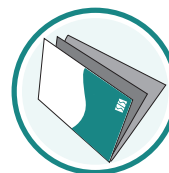
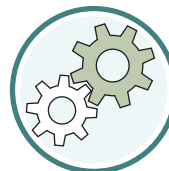
Ta del av det färdiga arbetet

Vi erbjuder våra kunder allt som rör standarder och deras tillämpning. Hos oss kan du köpa alla publikationer du behöver – allt från enskilda standarder, tekniska rapporter och standardpaket till handböcker och onlinetjänster. Genom vår webbtjänst e-nav får du tillgång till ett lättnavigerat bibliotek där alla standarder som är aktuella för ditt företag finns tillgängliga. Standarder och handböcker är källor till kunskap. Vi säljer dem.

Utveckla din kompetens och lyckas bättre i ditt arbete

Hos SIS kan du gå öppna eller företagsinterna utbildningar kring innehåll och tillämpning av standarder. Genom vår närhet till den internationella utvecklingen och ISO får du rätt kunskap i rätt tid, direkt från källan. Med vår kunskap om standarders möjligheter hjälper vi våra kunder att skapa verklig nytta och lönsamhet i sina verksamheter.

Vill du veta mer om SIS eller hur standarder kan effektivisera din verksamhet är du välkommen in på www.sis.se eller ta kontakt med oss på tel 08-555 523 00.



Standards make the world go round

SIS (Swedish Standards Institute) is an independent non-profit organisation with members from both the private and public sectors. We are part of the European and global network that draws up international standards. Standards consist of documented knowledge developed by prominent actors within the industry, business world and society. They promote cross-border trade, they help to make processes and products safer and they streamline your organisation.

Take part and have influence

As a member of SIS you will have the possibility to participate in standardization activities on national, European and global level. The membership in SIS will give you the opportunity to influence future standards and gain access to early stage information about developments within your field.

Get to know the finished work

We offer our customers everything in connection with standards and their application. You can purchase all the publications you need from us - everything from individual standards, technical reports and standard packages through to manuals and online services. Our web service e-nav gives you access to an easy-to-navigate library where all standards that are relevant to your company are available. Standards and manuals are sources of knowledge. We sell them.

Increase understanding and improve perception

With SIS you can undergo either shared or in-house training in the content and application of standards. Thanks to our proximity to international development and ISO you receive the right knowledge at the right time, direct from the source. With our knowledge about the potential of standards, we assist our customers in creating tangible benefit and profitability in their organisations.

If you want to know more about SIS, or how standards can streamline your organisation, please visit www.sis.se or contact us on phone +46 (0)8-555 523 00



Europastandarden EN 15029:2012 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN 15029:2012.

Denna standard ersätter SS-EN 15029:2006, utgåva 1.

The European Standard EN 15029:2012 has the status of a Swedish Standard. This document contains the official version of EN 15029:2012.

This standard supersedes the Swedish Standard SS-EN 15029:2006, edition 1.

Nationell information/National information

I enlighet med Livsmedelsverkets föreskrifter (SLVFS 2001:30) om dricksvatten, är järn (III) hydroxidoxid inte tillåten som processkemikalie för beredning av dricksvatten vid dricksvattenanläggningar som omfattas av föreskrifterna.

According to the National Food Agency's ordinance with regulations and general advice on drinking water, SLVFS 2001:30, Iron (III) hydroxide is not permitted in Sweden as a process chemical for treatment of water intended for human consumption.

© Copyright/Upphovsrätten till denna produkt tillhör SIS, Swedish Standards Institute, Stockholm, Sverige. Användningen av denna produkt regleras av slutanvändarlicensen som återfinns i denna produkt, se standardens sista sidor.

© Copyright SIS, Swedish Standards Institute, Stockholm, Sweden. All rights reserved. The use of this product is governed by the end-user licence for this product. You will find the licence in the end of this document.

Upplýsingar om sakinnehálet i standarden lámnas av SIS, Swedish Standards Institute, telefon 08-555 520 00. Standarder kan bestállas hos SIS Förlag AB som även lámnar allmänna upplýsingar om svensk och utlándsk standard.

Information about the content of the standard is available from the Swedish Standards Institute (SIS), telephone +46 8 555 520 00. Standards may be ordered from SIS Förlag AB, who can also provide general information about Swedish and foreign standards.

Denna standard är framtagen av kommittén för Vattenreningskemikalier och industrikalk, SIS/TK 431.

Har du synpunkter på innehållet i den här standarden, vill du delta i ett kommande revideringsarbete eller vara med och ta fram andra standarder inom området? Gå in på www.sis.se - där hittar du mer information.

EUROPEAN STANDARD

EN 15029

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2012

ICS 71.100.80

Supersedes EN 15029:2006

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 9 September 2012.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey 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
Foreword.....		3
Introduction		4
1	Scope	5
2	Normative references	5
3	Terms, definitions and symbols.....	5
4	Description	5
5	Physical properties.....	6
6	Chemical properties	6
7	Specific properties.....	7
8	Test methods.....	7
9	Labelling, transportation and storage	7
Annex A (informative) General information on iron (III) hydroxide oxide		9

Foreword

This document (EN 15029:2012) 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 2013, and conflicting national standards shall be withdrawn at the latest by May 2013.

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.

This document supersedes EN 15029:2006.

The significant technical difference between this edition and EN 15029:2006 is as follows:

- Updating of 9.2 in line with current legislation.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

SS-EN 15029:2012 (E)

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 documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced 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 — BET method*

3 Terms, definitions and symbols

For the purposes of this document, 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: 51274-00-1.

1) Chemical Abstracts Service Registry Number.

SS-EN 15029:2012 (E)

4.1.5 EINECS Reference ²⁾

Iron hydroxide oxide: 257-098-5.

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.

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.

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, contents of other impurities and additives used in the products 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.

After filling, washing and commissioning of a filter system producing drinking water, iron (III) hydroxide oxide should not increase the concentrations of chemical parameters (see [1]).

NOTE Water-extractable substances, determined in accordance with the method for granular materials given in EN 12902, can be used to estimate the leaching of the chemicals specified in EN 12902.

7 Specific properties

The surface area shall be not less than 100 m²/g.

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 on samples taken at the point of manufacture in accordance with the method of test given EN 12902, using wet sieving.

8.2.2 Bulk density loose

The bulk density loose shall be determined in accordance with EN 12902, without drying the sample, which could lead to a reduced volume.

8.2.3 Surface area

The surface area shall be determined by the BET method, degassing at a maximum of 200 °C, in accordance with ISO 9277.

9 Labelling, transportation and storage

9.1 Means of delivery

Iron (III) hydroxide oxide shall be delivered in bulk, in semi-bulk containers, big bags or in drums of plastics-lined cardboard, plastics or steel or suitable bags of various sizes.

NOTE In case of dry iron (III) hydroxide oxide, cardboard drums without plastics-lining can be used.

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.