

Chemicals used for treatment of water intended for
human consumption - Iron (III) chloride

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 888:2023 sisaldab Euroopa standardi EN 888:2023 ingliskeelset teksti.	This Estonian standard EVS-EN 888:2023 consists of the English text of the European standard EN 888:2023.
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 and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 15.02.2023.	Date of Availability of the European standard is 15.02.2023.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

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

ICS 71.100.80

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardimis- ja Akrediteerimiskeskusele

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

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardimis-ja Akrediteerimiskeskusega: Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

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

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 and Accreditation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation and Accreditation:

Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

English Version

Chemicals used for treatment of water intended for human consumption - Iron (III) chloride

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

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

This European Standard was approved by CEN on 25 December 2022.

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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents

Page

European foreword.....	4
Introduction	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	6
4 Description	6
4.1 Identification	6
4.1.1 Chemical names	6
4.1.2 Synonym or common names	6
4.1.3 Relative molecular mass	6
4.1.4 Empirical formula	7
4.1.5 Chemical formula	7
4.1.6 CAS Registry Number	7
4.1.7 EINECS reference	7
4.2 Commercial forms	7
4.3 Physical properties	7
4.3.1 Appearance	7
4.3.2 Density	7
4.3.3 Solubility (in water)	7
4.3.4 Vapour pressure	8
4.3.5 Boiling point at 100 kPa	8
4.3.6 Melting and freezing point	8
4.3.7 Specific heat	8
4.3.8 Viscosity (dynamic)	8
4.3.9 Critical temperature	8
4.3.10 Critical pressure	8
4.3.11 Physical hardness	8
4.4 Chemical properties	8
5 Purity criteria	8
5.1 General	8
5.2 Composition of commercial product	9
5.3 The grade of the product	9
5.4 The type of the product	9
6 Test methods	10
6.1 Sampling	10
6.2 Analyses	10
7 Labelling - Transportation - Storage	10
7.1 Means of delivery	10
7.2 Risk and safety labelling according to the EU Directives	10
7.3 Transportation regulations and labelling	12
7.4 Marking	12
7.5 Storage	12
7.5.1 Long term stability	12

7.5.2 Storage incompatibilities.....	12
Annex A (informative) General information on iron (III) chloride	13
A.1 Origin	13
A.1.1 Raw materials	13
A.2 Manufacturing process	13
A.2.1 General	13
A.2.2 Quality of commercial product	13
A.3 Use	15
A.3.1 Function	15
A.3.2 Form in which it is used.....	15
A.3.3 Treatment dose	15
A.3.4 Means of application.....	15
A.3.5 Secondary effects.....	15
A.3.6 Removal of excess product.....	16
Annex B (normative) General rules relating to safety	17
B.1 Rules for safe handling and use.....	17
B.2 Emergency procedures.....	17
B.2.1 First aid	17
B.2.2 Spillage	17
B.2.3 Fire.....	17
Bibliography	18

European foreword

This document (EN 888:2023) 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 August 2023, and conflicting national standards shall be withdrawn at the latest by August 2023.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 888:2004.

EN 888:2023 includes the following significant technical changes with respect to EN 888:2004:

- removal of the analytical methods from this standard and addition of reference to EN 17215 as analytical method standard;
- update of the information of risk and safety labelling of the product to comply with the new regulations (see 7.2 and [2]);
- update of the information related to Drinking Water Directive.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye 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 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.

1 Scope

This document is applicable to iron (III) chloride solution a) and iron (III) chloride hexahydrate b) used for treatment of water intended for human consumption. It describes the characteristics and specifies the requirements and the corresponding analytical methods for iron (III) chlorides a) and b) and gives information for their use in water treatment. It also determines the rules relating to safe handling and use of iron (III) chloride.

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 17215, *Chemicals used for treatment of water intended for human consumption — Iron-based coagulants — Analytical methods*

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 names

- a) Iron (III) chloride solution.
- b) Iron (III) chloride hexahydrate ($\text{FeCl}_3 \cdot 6 \text{H}_2\text{O}$).

4.1.2 Synonym or common names

- a) Ferric chloride, solution.
- b) Ferric chloride, hexahydrate.

4.1.3 Relative molecular mass

- a) 162,21 g/mol for FeCl_3 .
- b) 270,31 g/mol for $\text{FeCl}_3 \cdot 6 \text{H}_2\text{O}$.